

**M0240**

**Edition 10.3**

**Issued on March 2012**

# **NetDVR User Manual**

**For**

**IL7100HV-A Series**

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## Introduction of IP-CCTV Solutions

Thank you for choosing this product for your security video surveillance system. This operation manual illustrates how to set up hardware and software explains each individual icon function and demonstrates how to use the system effectively in a stable environment. Prior to install/utilize the system, operators should go through this manual thoroughly. Local suppliers may support them in due course.

### IP-CCTV Product Lines

Item	Product Name	Video Record Type	Why use it?
1	iHVR (Hybrid DVR)	Local HDD	High resolution, high quality, friendly GUI interface, convenient operation, easy to expand cameras, powerful integration ability.
2	NetDVR (Stand Alone)	Local HDD	Stable, no risk of computer virus, easy maintenance
3	IP Camera	Local SD card and network	Next generation product, all in one combo, easy installation, the best video quality.
4	IP Speed Dome	Network stream	Has all traditional high speed dome features but overcome the coaxial cable distant limit
5	IP Video Server	Network stream (5001HS both SD card and network)	Convert existing analog camera to IP camera, directly upgrade to IP video surveillance system
6	IP Matrix/TV-out (Decode card)	N/A	Utilize existing TV-wall facility

## ILDVR IP-CCTV Solution hardware&software structure





# 1 Product Features and Specifications

## 1.1 Compression

- H.264 hardware compression. Support up to 16 channels video input (PAL/NTSC). Each channel is independent and real time (PAL: 25 FPS, NTSC: 30FPS). Support both variable bit rate and variable frame rate.
- OggVorbis audio compression standard.
- Independent video encoding parameters, including frame rate, resolution, bit rate, video quality, etc.
- Scheduled and event recording parameters configurable for per individual camera.
- Support dual stream.
- Encoding for both audio/video composite stream and video stream; audio and video synchronization during composite stream encoding.
- Compression, storage and network transmission of video image at 4CIF or CIF resolution.

## 1.2 Local Function

### Record

- Cycle and non-cycle recording mode.
- Scheduled and event video encoding parameters.
- Multiple recording types, including manual, continuous, alarm, motion, motion | alarm and motion & alarm recording, etc.
- 8 recording time periods with separate recording types.
- Pre-record and Post-record time for alarm and motion detection, and pre-record time for schedule and manual recording.
- Lock and unlock of video files.
- HDD property can be set to read-only.
- Video data search and playback by channel number, recording type, time etc.
- Digital zoom function in playback mode.
- Pause, play fast, play slow, skip forward, and skip backward when playback, locating in progress bar by dragging the mouse.
- Up to 4/8/16-channel synchronous playback.

### Local Monitoring

- Up to 1024×768 resolution for VGA output display.
- Simultaneous VGA and CVBS output.
- 1/4/9/16-camera video live view, with the camera order adjustable.
- Group switch, manual switch and automatic cycle modes selectable for video live view, with the auto cycle period configurable.
- Digital zoom in live view mode.
- Shield of assigned channel for live view.
- Privacy masking capability.
- Multiple PTZ protocols supported, and settings and call up of presets, patrols and patterns.
- Video image zoom-in by clicking the mouse and tracing by dragging mouse in PTZ control mode.

### Alarm & Exception

- Configurable arming time for alarm in/out.
- Various alarm types supported: alarms for video loss, motion detection, video tempering, video in/out format unmatched, illegal access, network disconnection, IP conflict, hard disk error and hard disk full.
- Various alarm response actions supported: camera recording, relay out, on-screen warning, audible warning and upload to center, etc.
- Auto recovery from exceptions.

### **Backup**

- Record files backed up via USB or SATA device.
- Bunch backup by file or by time.
- Record files edited for backup in playback.
- Management and maintenance for backup devices.

### **PTZ**

- Support many kinds of PTZ protocol.
- Support preset, sequence and tour.

### **Alarms**

- Support Email Alarm Notification
- Support exception alarm, motion detection alarm, external alarm, etc.

### **Others**

- Control of DVR via front panel keys, mouse, and IR remote control.
- Three-level user management, each user with individual operating permission for DVR and camera.
- Powerful record and search for log of operation, alarm and exceptions.
- Import/export of device configuration files.

## **1.3 Network**

- 10/100M adaptive network interface.
- TCP/IP protocol suites, PPPoE, DHCP, DNS, DDNS, NTP, SADP protocols, etc.
- Unicast and multicast supported; TCP and UDP protocols applicable in unicast transmission.
- Remote search, playback and download, lock/unlock of video files.
- Support breakpoint resume.
- Remote access and configuration of parameters; remote import/export of device configuration parameters.
- Remote access of device running status, system log and alarm status.
- Remote control of DVR via button operation.

- Remote lock/unlock of panel buttons and mouse.
- Remote formatting of hard disk, upgrade, reboot/shutdown and other system maintenance operations.
- RS-232 and RS -485 transparent channel transmission.
- Event alarm and exceptions upload to remote management host.
- Remote manual recording.
- Remote video image capture in JPEG format.
- Remote PTZ control.
- Voice talk and broadcast.
- Built-in Web Server.

## 1.4 Specification

Model		IL7104HV-A	IL7108HV-A	IL7116HV-A
Video/Audio input	Video compression	H.264		
	Analog video input	4-ch	8-ch	16-ch
	Video interface	BNC connector (1.0 Vp-p, 75 Ω); PAL / NTSC adaptive		
	Audio compression	G.711		
	Audio input	1-ch,RCA connector (2.0 Vp-p, 1 KΩ)	1-ch,RCA connector (2.0 Vp-p, 1 KΩ)	4-ch,RCA connector (2.0 Vp-p, 1 KΩ)
	Voice talk input	1-ch, RCA (2.0 Vp-p, 1 KΩ)		
	VGA output	1-ch, resolution: 1280 × 1024 / 60 Hz, 1024 × 768 / 60 Hz		
	CVBS output	2-ch, BNC connector (1.0 Vp-p, 75 Ω); Resolution: PAL: 704 × 576, NTSC: 704 × 480		
Video/Audio output	Audio output	1-ch, RCA connector (Linear, 1 KΩ)		
	Recording Resolution	4CIF/2CIF/CIF		
	Frame rate	Main stream: 4CIF / 2CIF@12 fps, CIF@25fps (P)/30 fps(N) Sub stream: CIF / QCIF@ up to 25 fps (P) / 30 fps (N)	Main stream: 4CIF / 2CIF@8 fps, CIF@25 fps (P) /30fps (N) Sub stream: CIF / QCIF@ up to 25 fps (P) / 30 fps (N)	Main stream: 4CIF / 2CIF@6 fps, CIF@25 fps (P) / 30fps (N) Sub stream: CIF / QCIF@ up to 25 fps (P) / 30 fps (N)
	Video bit rate	32 kbps ~ 2048 kbps, or user-defined (Max. 3072 kbps)		
	Stream type	Video/ Video & Audio		
	Audio bit rate	64 kbps		
	Dual stream	Support		
	Synchronous playback	4-ch	8-ch	16-ch
Hard disk	Type	1 SATA interface	1 SATA interface	2 SATA interfaces
	Capacity	Up to 2TB capacity for each interface		
	Network interface	1, RJ45 10 M / 100 M adaptive Ethernet interface		

External interface	Serial interface	1 RS-485 interface, 1 RS-232 interface (IL7116HV-A only)		
	USB interface	2, USB 2.0		
	Alarm in	4	4	16
	Alarm out	1	1	4
Others	Power supply	12 VDC		
	Consumption	≤10 W (without hard disk or DVD-R/W)	≤10 W (without hard disk or DVD-R/W)	≤15 W (without hard disk or DVD-R/W)
	Working temperature	-10 °C ~ +55 °C		
	Working humidity	10% ~ 90%		
	Chassis	Stand-alone 1U chassis	Stand-alone 1U chassis	19-inch rack-mounted 1.5U chassis
	Dimensions (W × D × H)	315 × 230 × 45 mm	315 × 230 × 45 mm	445 × 390 × 70 mm
	Weight	≤2 kg (without hard disk or DVD-R/W)	≤2 kg (without hard disk or DVD-R/W)	≤4 kg (without hard disk or DVD-R/W)

## 2 Installation

In order to run NetDVR stably, please install the NetDVR in well ventilation space with allowed range of temperature and humidity as claimed in specifications.

### 2.1 Rear Panel Description

**IL7104HV-A/7108HV-A Rear Panel** (Please refer to real product for different model)



No.	Item	Description
-----	------	-------------



	SPOT VIDEO OUT	BNC connectors for spot video out
2	VIDEO IN	BNC connectors for analog video input
3	AUDIO IN	RCA connectors for analog audio input
4	LINE IN	RCA connector for audio input (Remote Chat)
5	AUDIO OUT	RCA connector for audio output
6	VGA	DB15 connector for VGA output. Display local video output and menu
7	RS-232 Interface	DB9 connector for RS-232 devices.
8	LAN	Connector for LAN (Local Area Network)
9	USB	Connector for USB devices
10	RS-485 Interface	Connector for RS-485 devices. T+, T- pin connects to PTZ
11	ALARM IN	Connector for alarm input
	ALARM OUT	Connector for alarm output
12	12V	12VDC power supply
13	POWER	Switch for turn on/off the device
14	GND	Ground(needs to be connected when DVR starts up)

## 2.2 External Alarm In/Out Connection

The alarm input is a Normal Open/Closed relay. If the input is not a Normal Open/Closed relay, follow the connection diagram below:

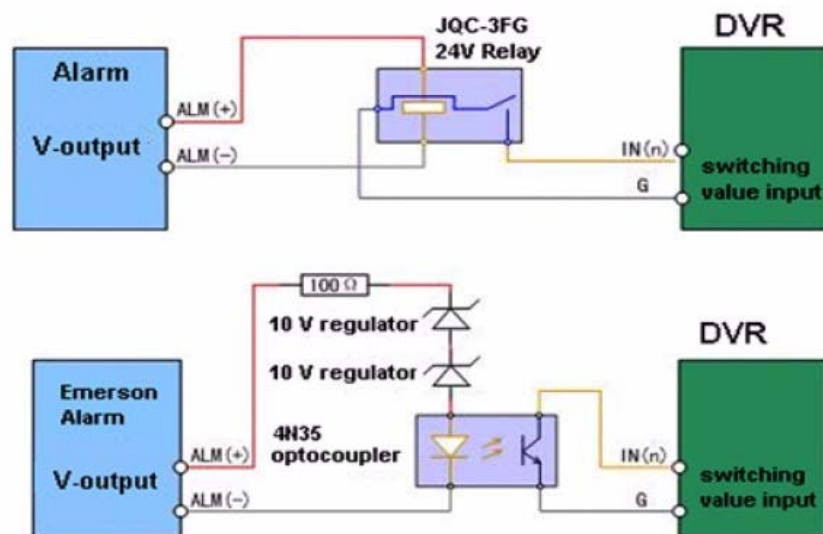


Figure 2.2.1

To connect to an AC/DC load, use the following diagram:

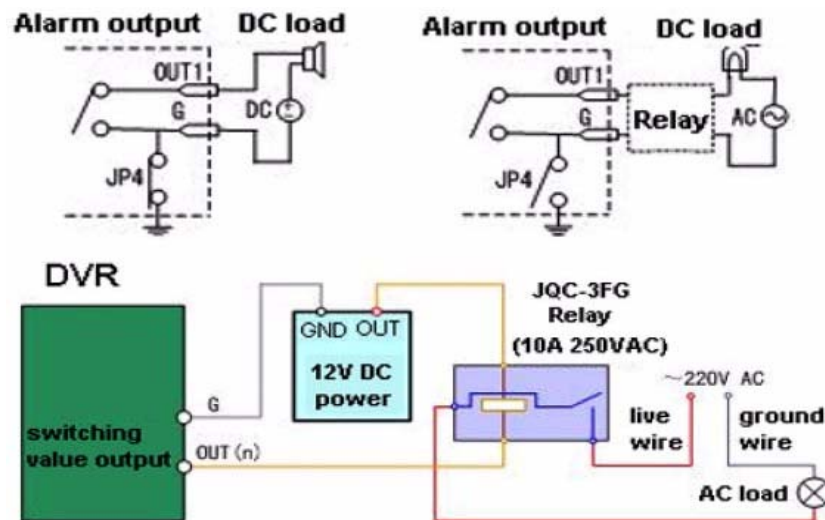


Figure 2.2.2

For DC load, JP4 can be used within the limit of 12V/1A safely. If the interface is connected to an AC load, JP4 should be left open. Use an external relay for safety (as shown in the figure above).

There are 4 jumpers (JP4, JP5, JP6, and JP7) on the motherboard, each corresponding with one alarm output. By default, jumpers are connected. To connect an AC load, jumpers should be removed.

**For your attention:** An external relay is needed to prevent electric shock when connecting to an AC load.

## 3 Front Panel and Remote Controller Introduction

### 3.1 NetDVR Front Panel

#### 3.1.1 IL7104HV-A/7108HV-A front panel control buttons include:

- 1) **Status Indicators:**
  - **POWER:** the POWER indicator turns green when DVR is powered up.
  - **STATUS:** the indicator lights when the compound key switches to numeric/letter input mode.
  - **Tx/Rx:** TX/RX indicator flickers green when network connection is functioning normally.



- 2) **IR Receiver:** operation by IR remote control.
- 3) **Compound Buttons:**
  - **1 MENU:** (1) Enter numeral “1”; (2) Access the main menu interface
  - **2ABC/F1:** (1) Enter numeral “2”; (2) Enter letters “ABC”; (3) The F1 button when used in a list field will select all items on the list. In PTZ Control mode, it will turn on/off PTZ light.
  - **3DEF/F2:** (1) Enter numeral “3”; (2) Enter letters “DEF”; (3) The F2 button is used to cycle through tab pages. It will also bring up the Channel & OSD Position settings.
  - **4GHI/ESC:** (1) Enter numeral “4”; (2) Enter letters “GHI” (3) Exit and back to the previous menu
  - **5JKL/EDIT:** (1) Enter numeral “5”; (2) Enter letters “JKL”; (3) Delete characters before cursor. (4) Select the checkbox and ON/OFF switch; (5) Start/stop record clipping in playback
  - **6MNO/PLAY:** (1) Enter numeral “6”; (2) Enter letters “MNO”. (3) Playback, for direct access to playback interface



- **7PQRS/REC:** (1) Enter numeral “7”; (2) Enter letters “PQRS”; (3) Manual record, for direct access to manual record interface; manually enable/disable record
- **8TUV/PTZ:** (1) Enter numeral “8”; (2) Enter letters “TUV”; (3) Access PTZ control interface
- **9WXYZ/PREV:** (1) Enter numeral “9”; (2) Enter letters “WXYZ”; (3) Multi-camera display in preview
- **0/A:** (1) Enter numeral “0”; (2) switch between input methods (upper and lowercase alphabet, symbols and numeric input)
- 4) **SHIFT:** Switch of compound keys between the numeric/letter input and functional control.
- 5) **Control Buttons:**
  - **Directional buttons:** In menu mode, the *direction* buttons are used to navigate between different fields and items and select setting parameters. In playback mode, the *Up* and *Down* buttons are used to speed up and slow down record play, and the *Left* and *Right* buttons are used to select the recording 30s forwards or backwards. In preview mode, these buttons can be used to cycle through channels.
  - **Enter:** The *Enter* button is used to confirm selection in menu mode; or used to select checkbox fields and ON/OFF switch. In playback mode, it can be used to play or to pause the video. In single-frame play mode, pressing the *Enter* button will advance the video by a single frame. And in auto sequence preview mode, the buttons can be used to pause / resume auto sequence.
- 6) **USB Interface:** Connects USB mouse or USB flash memory devices.

### 3.1.2 IL7116HV-A front panel control buttons include:

- 1) **IR Receiver:** Operation by IR remote control.
- 2) **USB Interface:** Connects USB mouse or USB flash memory devices.
- 3) **Status Indicators:**
  - **POWER:** the indicator lights in green when DVR is powered up.
  - **READY:** the indicator lights in green when the device is running normally.
  - **STATUS:** the indicator lights when the compound key switches to numeric/letter input mode.
  - **ALARM:** the indicator lights in red when there is sensor alarm occurring.
  - **HDD:** the indicator flickers in red when HDD is reading/writing.
  - **Tx/Rx:** TX/RX indicator flickers green when network connection is functioning normally.
- 4) **DVD-ROM:** Space for DVD-ROM.
- 5) **Control Buttons:**
  - **Directional buttons:** In menu mode, the *direction* buttons are used to navigate between different fields and items and select setting parameters. In playback mode,

the *Up* and *Down* buttons are used to speed up and slow down record play, and the *Left* and *Right* buttons are used to select the recording 30s forwards or backwards. In preview mode, these buttons can be used to cycle through channels.

- **Enter:** The *Enter* button is used to confirm selection in menu mode; or used to select checkbox fields and ON/OFF switch. In playback mode, it can be used to play or pause the video. In single-frame play mode, pressing the *Enter* button will advance the video by a single frame. And in auto sequence preview mode, the buttons can be used to pause / resume auto sequence.



- 6) **SHIFT:** Switch of compound keys between the numeric/letter input and functional control.
- 7) **Compound Buttons:**
  - **1 MENU:** (1) Enter numeral “1”; (2) Access the main menu interface
  - **2ABC/F1:** (1) Enter numeral “2”; (2) Enter letters “ABC”; (3) The F1 button when used in a list field will select all items on the list. In PTZ Control mode, it will turn

on/off PTZ light.

- **3DEF/F2:** (1) Enter numeral “3”; (2) Enter letters “DEF”; (3) The F2 button is used to cycle through tab pages. It will also bring up the Channel & OSD Position settings.
  - **4GHI/ESC:** (1) Enter numeral “4”; (2) Enter letters “GHI” (3) Exit and back to the previous menu
  - **5JKL/EDIT:** (1) Enter numeral “5”; (2) Enter letters “JKL”; (3) Delete characters before cursor; (4) Select the checkbox and ON/OFF switch; (5) Start/stop record clipping in playback
  - **6MNO/PLAY:** (1) Enter numeral “6”; (2) Enter letters “MNO”; (3) Playback, for direct access to playback interface
  - **7PQRS/REC:** (1) Enter numeral “7”; (2) Enter letters “PQRS”; (3) Manual record, for direct access to manual record interface; manually enable/disable record
  - **8TUV/PTZ:** (1) Enter numeral “8”; (2) Enter letters “TUV”; (3) Access PTZ control interface
  - **9WXYZ/PREV:** (1) Enter numeral “9”; (2) Enter letters “WXYZ”; (3) Multi-camera display in preview
  - **0/A:** (1) Enter numeral “0”; (2) switch between input methods (upper and lowercase alphabet, symbols and numeric input)
- 8) **JOG SHUTTLE Control:** The JOG SHUTTLE control can be used to move the active selection in a menu. The inner ring will move the selection up and down; the outer ring will move it left and right. In the Playback mode, the inner ring is used to jump 30 seconds forward/backward in a video. The outer ring can be used to speed up/slow down the video. In Preview mode, it can be used to cycle through different channels.

#### **For your attention:**

It is important to note that you must click the EDIT button on either the remote or front panel on a text field before you are able to edit its content. After you’re done entering text, you must hit the ENTER button to be able to move on to the next field.

### 3.2 IR Remote Controller



Index	Name	Description
1	POWER Button	Turn off NetDVR device
2	DEV	Enable/Disable IR remote control
3	Numeric Keys	Same as numeric keys of front panel.
4	EDIT	Same as EDIT key of front panel.
5	A	Same as A key of front panel.
6	REC	Same as REC key of front panel.
7	PLAY	Same as PLAY key of front panel.
8	INFO	
9	VOIP	
10	MENU	Same as MENU key of front panel.
11	PREV	Same as PREV key of front panel.
12	Direction Keys ENTER	Same as direction keys and enter key of front panel.
13	PTZ	Same PTZ key of front panel.
14	ESC	Same as ESC key of front panel.
15	Reserved	
16	F1	Same as [F1] key of front panel.
17	Lens control	IRIS, FOCUS ZOOM for lens control.
18	F2	Same as [F2] key of front panel.

#### Loading the batteries into the IR controller

- Remove the battery cover.

- Insert a pair of AAA 1.5V battery. Please take care that the poles (+ and -) are correctly positioned.
- Replace the battery cover.

#### **Start to use IR controller**

IR controller is designed to control multiple NetDVR devices. It recognizes the target NetDVR by device ID.

Press [DEV] key, input the NetDVR device ID (default is “255”, it can be changed in “Display” menu) and then press [ENTER] key. If the “STATUS” lamp of NetDVR front panel is turned into green, it means you can use IR controller to operate this NetDVR.

#### **Stop using IR controller**

When IR controller status is on, press [DEV] key again, the “STATUS” lamp will be turned off. The IR controller cannot control this NetDVR.

#### **Turn off the NetDVR**

When IR controller status is on, press [POWER] key for several seconds, the NetDVR will be turned off.

#### **When IR controller cannot work normally**

- Check IR Receiver if it is masked
- Check IR Controller’s sensor if it is masked
- Replace new batteries
- If the problem still exists, please change another IR Controller to try again or contact your dealer for repair.

### **3.3 Using USB Mouse**

A regular 3-button (Left/Right/Scroll-wheel) USB mouse can also be used with this DVR. To use a USB mouse:

- 1) Plug USB mouse into one of the USB ports on the front panel of the DVR.
- 2) The mouse should automatically be detected. If in a rare case that the mouse is not detected, please refer to the recommended device list from your provider.

The buttons on the mouse corresponds to:

#### **1) Left Button:**

- **Single-Click:** Select a component of a menu, such as a button or an input field. This is similar to pressing the ENTER button on the remote/front panel controls.
- **Double-Click:** Switch between single screen and multi-screen mode in Preview/ Playback mode.
- **Click and Drag:** Clicking and dragging the Left mouse button can be used to control the pan/tilt of a PTZ camera as well as to vary the position of digital zoom area and camera OSD. It can also be used to setup the alarm areas.

#### **2) Right Button:**

- **Single-Click:** Shows pop-up menu.

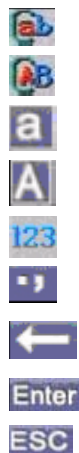
### 3) Scroll-Wheel:

- **Scroll Up:** In Preview mode, scrolling up will switch to the previous screen. In Menu mode, it will move the selection to the previous item.
- **Scroll Down:** In Preview mode, scrolling down will switch to the next screen. In Menu mode, it will move the selection to the next item.

## 3.4 Using Soft Keyboard

When a mouse is used to perform task on the DVR, clicking on a text input field will bring up the Soft Keyboard, shown as following figure

The buttons on the soft keyboard represents:



**Lowercase:** Designates lowercase input is being used  
**Uppercase:** Designates uppercase input is being used  
**Switch to Lowercase:** Switch to lowercase input.  
**Switch to Uppercase:** Switch to uppercase input  
**Number:** Designates number input is being used.  
**Symbols:** Switch to symbols input.  
**Backspace:** Delete the character in front of the cursor.  
**Enter:** Confirm selection.  
**ESC:** Exit out of Soft Keyboard.



## 4 Basic Operation

### 4.1 Power on and shut down

Proper startup and shutdown procedures are crucial to expand the life of your DVR. To start your DVR:

- 1) Please make sure the input voltage meets the requirements of DVR, and the GND is in grounding.
- 2) Please make sure the VGA port on its rear panel has connected with a display device or the VIDEO OUT port has connected to a monitor, or else no prompt message will be displayed on screen after device startup and the menu operation is inaccessible as well.
- 3) In case the POWER indicator on the front panel does not light, please apply power to the device to start it. After the power has been started up, the POWER indicator will light green, and the startup window will appear:

To shut down the DVR:

- 1) Enter the **Shut Down** menu, shown in Figure 1 by clicking on Menu > ShutDown.
- 2) Select the *Shutdown* button.
- 3) Click the *Yes* button.

## 4.2 User Name and Password

When NetDVR is delivered from factory, there is only one default administrator named “admin” setup. Its default password is “12345”. This administrator name cannot be modified but its password can be modified.



## 4.3 Running Setup Wizard

Please make sure the DVR has been installed with HDD before access to the Setup Wizard. By default, the Setup Wizard will start once the DVR has loaded, as shown in Figure 4.3.1. The Setup Wizard will guide you through some important settings of your DVR. Select *Next* if the DVR has been installed with HDD, or click *Cancel* to access Live View window if no HDD is installed.

If the checkbox is check-off to ☐, then the Setup Wizard dialog box will not appear next time until the factory default settings are resumed; and if you select the checkbox check-on to ☒, the device will automatically access the Setup Wizard dialog box when it starts up next time.



Figure 4.3.1.

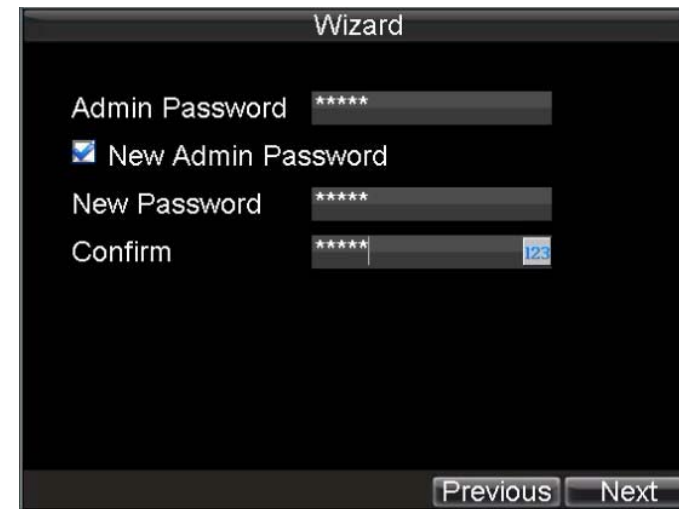


Figure 4.3.2

To start using the Setup Wizard:

- 1) Click the *Next* button on the Wizard window. This will take you to the **User Permission** window, shown in Figure 4.3.2.
- 2) Navigate to the Admin Password text box. Type the admin password into the Admin Password text box. By default, the password is 12345.
- 3) To change the admin password, check the New Admin Password checkbox. Type new password and confirm it in the given text boxes.

- 4) Click *Next* button to enter the HDD Management dialog box, shown in Figure 4.3.3. To access HDD management interface, click the *Enter* button.



Figure 4.3.3.



Figure 4.3.4

- 5) If a new HDD has been recently installed, select the HDD from the list to initialize it. Initializing the HDD will format and remove all data from it. See figure 4.3.4.
- 6) After the HDD has been initialized, click the *OK* button which will take you back to the **Setup Wizard** window. Click *Next* button to enter the **Record Settings** dialogue box, as shown in Figure 4.3.5.



Figure 4.3.5.



Figure 4.3.6



- 7) To access **Record Settings** interface, click the *Enter* button. Select the **Schedule** tab, shown in Figure 4.3.6.
- 8) Click *Edit* button to enter a new recording schedule, shown in Figure 4.3.7.
- 9) Check both the *Enable Schedule* and *All Day* checkbox. This will enable the recording schedule and make it record continuously all day. See figure 4.3.8
- 10) Click the *OK* button. This will take you back to the **Schedule** tab. To copy the schedule to a different channel, select the channel or all under **Copy To** and click the *Copy* button.

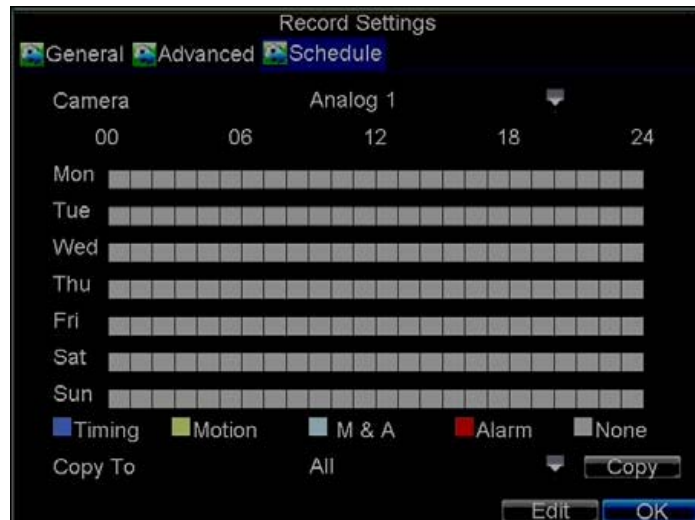


Figure 4.3.7.

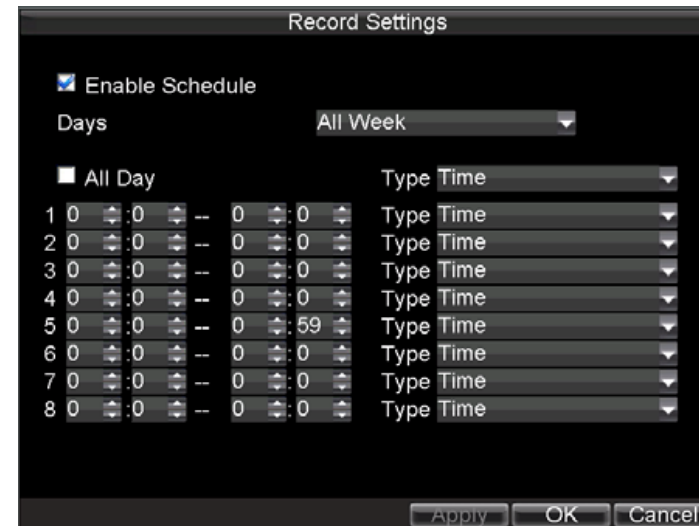


Figure 4.3.8



Figure 4.3.9.

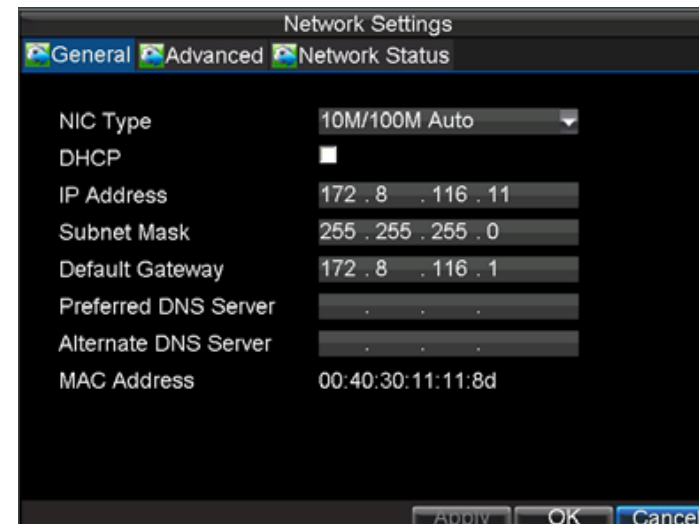


Figure 4.3.10

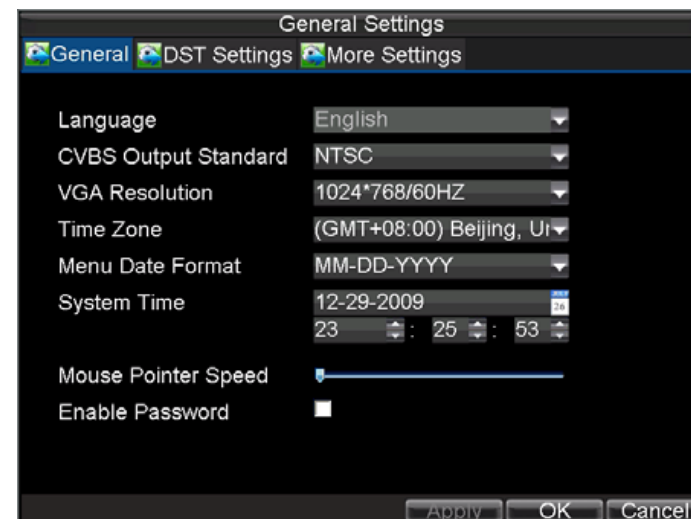
- 11) Click *Next* button to access the **Network Settings** dialog box, shown in Figure 4.3.9.
- 12) To configure network settings, click the *Enter* button. Enter the **IP Address**, **Subnet Mask** and **Default Gateway** settings. Figure 4.3.10
- 13) Click *OK* button to return to the Setup Wizard. If all the settings have been entered, click *Done* to finish and exit the Setup Wizard.

You've completed the Setup Wizard. The next step in the initial setup process is to setup the system date and time. After completion of Setup Wizard, enter the live preview window.

## 4.4 Set date and time

It is extremely important to setup the system date and time to accurately timestamp recordings and events. To setup date and time:

- 1) Open the **Menu** window by clicking the *MENU* button on the remote or front panel. You can also go to the Menu window by right clicking with the mouse and clicking the Menu button.
- 2) Click the *Settings* icon.
- 3) Click the *General* icon. You will be taken to the **General Settings** window, as shown as following Figure.
- 4) Enter the correct date and time in **System Time**.
- 5) Click the *Apply* button to save the setting.



## 5 Live Video Preview Operation

Some icons are provided on screen in Live Preview mode to indicate different camera status. These icons include:



**Main Output**



**Aux Output**



**Event Alarm:** Indicates video loss, video tampering, motion detection or relay alarm.



**Record:** Indicates the current channel is recording. The recording may have been started manually, from a schedule, and/or triggered from motion or alarm.

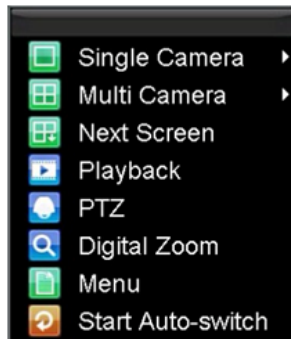
In Live View mode, you can operate the following functions:

- 1) **Display Single Camera:**
  - **By Front Panel/Remote:** Use Alphanumeric buttons.
  - **By Mouse:** Select *Single Camera* in right-click menu.
- 2) **Multi-camera Preview:**

- **By Front Panel/Remote:** Press *PREV* button.
  - **By Mouse:** Select *Multi Camera* in right-click menu.
- 3) **Manual Switch:**
- **By Front Panel/ Remote:** Press the *Left* arrow button to access the previous screen; press the *Right* arrow button to access next screen.
  - **By Mouse:** Select *Next Screen* in right-click menu.
- 4) **Auto Sequence:**
- **By Front Panel/Remote:** Press *Enter* button.
  - **By Mouse:** Select *Start Auto-switch* in right-click menu.
- 5) **Digital Zoom:**
- **By Mouse:** Select Digital Zoom in right-click menu.

## 5.1 Mouse Operation in Live Preview

Some functions of the Live Preview can be quickly accessed by clicking the right-button of the mouse (shown in Figure 2). The functions include:



- **Single Camera:** Switch to a full-screen display of the selected camera by drop-down submenu.
- **Multi Camera:** Switch between different multi-camera display modes by drop-down submenu.
- **Next Screen:** When displaying less than the maximum number of cameras in Live Preview, select this option to switch to the next camera display.
- **Playback:** Enter Playback mode of the selected camera.
- **PTZ:** Enter PTZ Control mode of the selected camera.
- **Digital Zoom:** Enter Digital Zoom interface of the selected camera.
- **Menu:** Enter Main menu.
- **Start Auto-switch:** Enable multi-camera sequence in Live Preview mode.



### Digital Zoom

To use digital Zoom in Live Preview mode:

- 1) Right-click the mouse in Live Preview mode.
- 2) Select *Digital Zoom* from drop-down submenu.
- 3) Left-click and drag the red box to the desired area for zooming.

The zoomed image will be magnified by 4 times. An example is given in the following figure:

## 5.2 Configure Live Preview Display

Click Menu >Settings >Display to access the Live Preview display settings. Configure the following settings for Live Preview Display:

- **Video Output:** Set the video output modes, including VGA, Aux Output and Main CVBS.
- **Mode:** Set the live view display mode to be 1×1, 2×2, 3×3, or 4×4.
- **Dwell Time:** Set the dwell time for camera switching when **Start Auto-switch** is selected in Live Preview.
- **Camera Order:** Set the camera order for display in the selected mode (See *Setting Camera Order*).

- **Enable Audio Output:** Enable/disable audio output for the selected video output.
- **Event Output Port:** Set the port for event output to be VGA, Main CVBS or Aux Output.
- **Event Dwell Time:** Set the dwell time for event video display.

**Note:**

- 1) IL7100HV-A will automatically detect whether this is VGA display connected or not.
- 2) When a VGA display is connected to DVR, then the VGA will be used as the main video output, and all menu operations are accessible by mouse, front panel or IR remote controller. The VIDEO OUT1 will be used as the spot video output which only allows user to access the live view of the camera according to the configured CVBS video parameters; and the VIDEO OUT2 will be used as the auxiliary video output, which allows user to access the single-camera live view of the camera as well as press the **3DEF/F2** button on the front panel to switch the camera display.
- 3) When there is no VGA display connected to DVR, the VIDEO OUT1 will be used as the main video output, and menu operations are accessible. The VGA will be used as the spot video output which only allows user to access the live view of the camera according to the configured VGA video parameters and the VIDEO OUT2 is used as the auxiliary video output which allows user to access the single-camera live view of the camera as well as press the **3DEF/F2** button on the front panel to switch the camera display.
- 4) The connection or disconnection of VGA display in the process of device running will not affect its functions as shown above.



### 5.3 Set Camera Order

The Camera Order settings allow you to set camera sequence in selectable live view display mode. See above figure:

Operate the following steps to set camera order:

- 1) Enter the Display Settings menu (Menu > Settings > Display) and click *Set* in the Camera Order item.
- 2) Select the video output port and the display mode (1×1, 2×2, 3×3 and 4×4 modes selectable).

- 3) Use the direction buttons on front panel to move to the display pane for setting press the Enter button to confirm the selection.
- 4) Use the direction buttons on front panel to select the camera you want to be view in the display pane. The option '×' indicates no display of camera.
- 5) Press *Enter* button to confirm the selection.

## 6 Record Setup

There are multiple ways to setup your DVR for recording. They include setting up a recording schedule, triggering a recording by motion detection and/or a sensor alarm, and manually starting the recording. Before configuration, please make sure your DVR has been installed with HDD and has completed its initialization, otherwise, access Menu > HDD Management to install the HDD and perform initialization first.

### 6.1 Initializing Record Settings

- 1) Click Menu > Settings > Record to access the Record Settings dialog box, shown in Figure 6.1.



Figure 6.1



Figure 6.2

- 2) Select the camera you want to configure.
- 3) Configure the following settings:
  - **Encoding Parameters:** Set the encoding parameters to be Normal or Event.
  - **Stream Type:** Set the stream type to be Video or Video & Audio.
  - **Resolution:** Set recording at resolution of 4CIF, CIF or QCIF selectable.
  - **Bit Rate Type:** Set the bit rate type to be Variable or Constant.
  - **Video Quality:** Set the video quality of recording, with 6 levels configurable.
  - **Frame Rate:** Set the frame rate of recording.
  - **Max Bit Rate:** Select or customize the maximum bit rate for recording.

- 4) Click the *Set* button under More Settings to configure more recording settings, as shown in Figure 6.2.
  - **Pre-Record:** Set the time in seconds to pre-record before the actual recording begins.
  - **Post-Record:** Set the time in seconds to post-record after the actual recording has ended.
  - **Recording Expired Time:** Set the expiration time in days for recorded video. Record files after expiration time will be deleted. If it is set to '0,' record files will not be option and would be deleted. The actual period for record files storage is determined by the available HDD space.
  - **Record Audio:** Enable or disable audio record of the selected camera. Click *OK* to finish settings and return to the previous menu.
- 5) Press the *3DEF/F2* button on DVR front panel to select the **Advanced** tab to access the Advanced Settings submenu, shown in Figure 6.3.
- 6) Enable or disable the Overwrite setting. Enabling the Overwrite setting will cause recorded files to be overwritten once the HDD is full.
- 7) Click *Apply* and then *OK* to back to the previous menu.



Figure 6.3.



Figure 6.4.

## 6.2 Scheduling a Recording

The *Schedule* allows you to set up flexible recording schedules for daily or weekly recording. To set up a recording schedule:

- 1) Click Menu > Settings > Record to enter the Record Settings menu.
- 2) Select the **Schedule** tab to enter the Schedule dialog box, shown in Figure 6.4.
- 3) Select Camera you want to configure recording schedule.
- 4) Click the *Edit* button to enter the **Schedule Settings** dialog box.
- 5) Click and check **Enable Schedule** checkbox.
- 6) Select the day you want to set up the schedule or select **All Week** to record for entire week.
- 7) Click **All Day** to enable recording for entire day, or select different periods for each day. Up to 8 time periods can be scheduled.
- 8) Select recording **Type**. Recording type can be selected to scheduled or triggered by motion detection and/or alarm. For more specific settings about motion detection

and alarm recordings, please refer to the *Configuring Alarms*.

- 9) Click the *OK* button to finish configuration.
- 10) Repeat Steps 3-9 for other cameras or copy settings from one schedule to the others under the **Copy To** item.
- 11) Click *OK* to finish configuration and save the schedule settings.

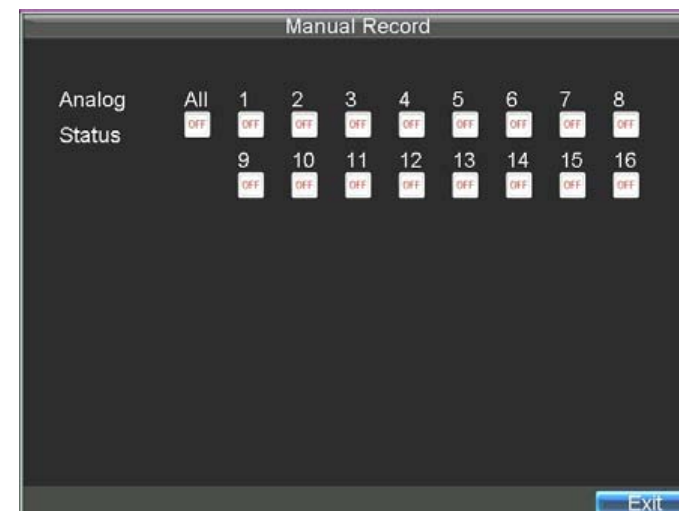
#### For your attention:

- The time periods scheduled cannot be overlapped with each other.
- The **Event** encoding parameters will take effect when motion detection or alarm happens, and the **Timing** encoding parameters will take effect when there are no events happening.

### 6.3 Starting a Manual Recording

A manual recording can be enabled at any time by means of the following configuration:

- 1) Press the *REC* button on the front panel to access the **Manual Record** dialog box, shown in right figure.
- 2) Start manual recording by selecting *ON* or *OFF* for each camera.



### 6.4 Protect Recorded Files

Two methods are provided to prevent recorded files from being deleted from the HDD or overwritten during cycle recording:

- 1) Set the recorded files to be *locked*
- 2) Set the HDD that the files reside on to be *read-only*.

### 6.5 Lock/Unlock Recorded Files

To lock or unlock a recorded file:

- 1) Click Menu > Video Search to enter the Video Search dialog box, shown in Figure 6.6.
- 2) Search for desired recording by entering search parameters. Search parameters include Camera ID, Video/File Type, and Start/End Time.
- 3) Click the *Search* button. A list of record files (see Figure 6.7) matching the search parameters will be displayed.
- 4) Select the file you want to lock/unlock.
- 5) Click the Lock button to lock file. If the file is already locked, click the Unlock button to unlock file. Locked files will be shown with a closed lock while unlocked files, opened lock.
- 6) Click *Cancel* to exit the Video Search menu.



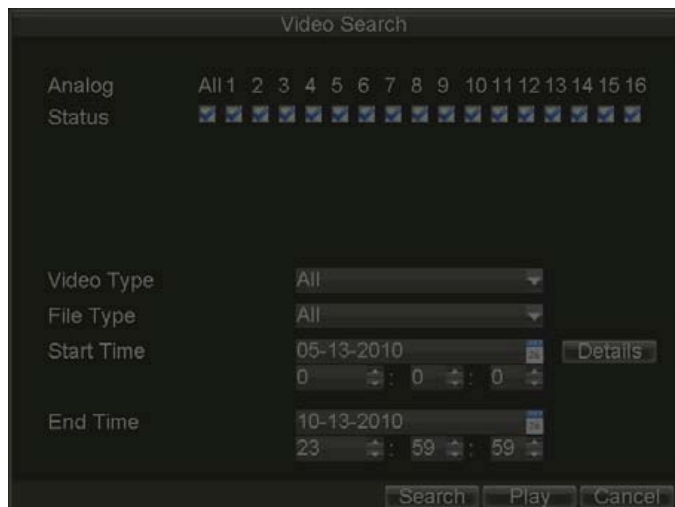


Figure 6.6. Video Search Result List

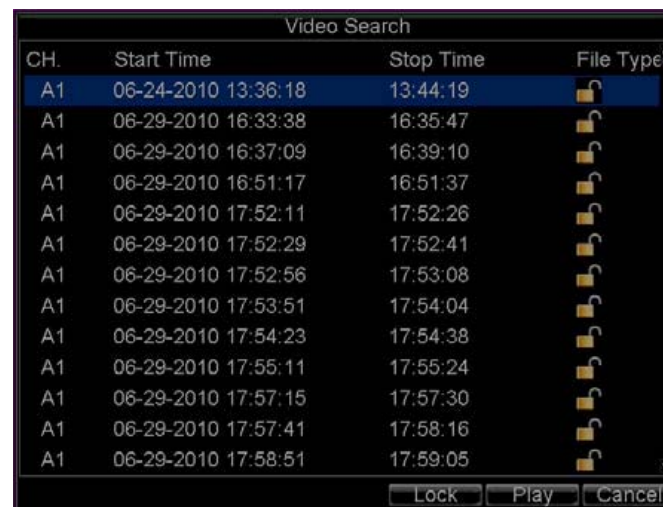


Figure 6.7

## 6.6 Set HDD to Read-Only

To set a HDD to read-only:

- 1) Click Menu > HDD to access the HDD Management dialog box, shown in Figure 8.
- 2) Select the **General** tab.



Figure 6.8. HDD Management Menu

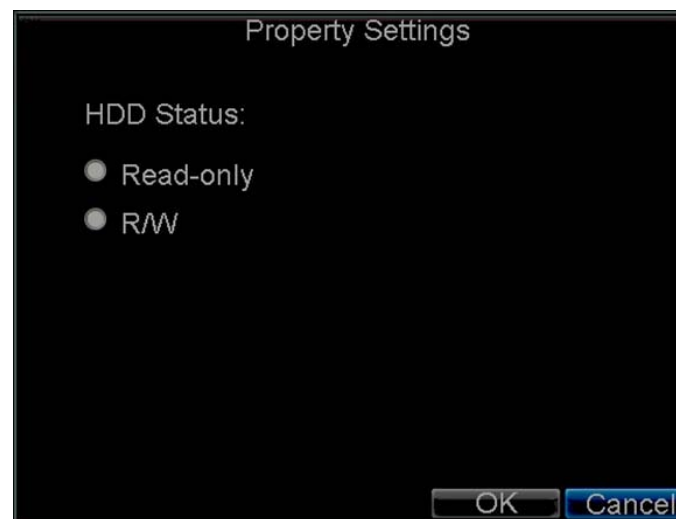


Figure 6.9. HDD Property Settings Menu



- 3) Select the HDD to set to read-only.
- 4) Click the *Property* button to enter the Property Settings dialog box, shown in Figure 36.
- 5) Set **HDD Status** to *Read-only* and then click *OK* to finish the setting.

**For your attention:**

- Once set to read-only, the HDD cannot be written to until it is set back to read/write (R/W).
- IL7104HV-A/L model can be installed with one HDD only, therefore, when the property is set to read-only, the recording of the device will be stopped.

## 7 Playback

Multiple toolbar and buttons are provided on the playback interface to control the video playback. Refer to the following figure 7.1.

### 7.1 Playback by Search

To play back record files by video search:

- 1) Enter the Video Search menu by clicking Menu > Video Search.
- 2) Set the search parameters by selecting cameras to search, video/file type and the start/end time (as shown in Figure 7.2).
- 3) Click the Play button on the front panel to start playback of all the files found, or click the Search button to access the list of search results. After search results are presented, select the file you want to play back and press Play button.
- 4) Record files will automatically be played back in the Playback interface.



Figure 7.1. Playback Interface

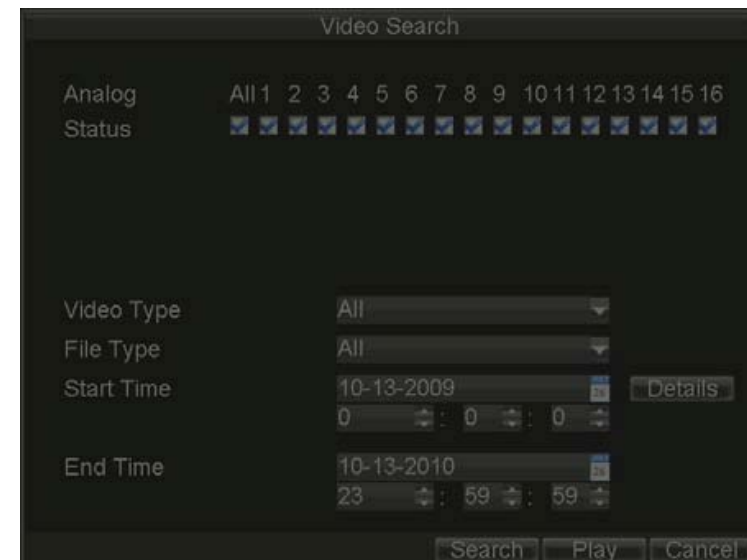


Figure 7.2. Video Search Menu

## 7.2 Playback in Live Preview Mode

To play back by channel in Live Preview mode:

- **By Using a Mouse:**



- 1) Right-click the mouse on desired channel and select the *Playback* option.
- 2) Record video from the selected channel will start playing back in the Playback window. An *Attention* message will appear if there are no recordings found in the previous 5 minutes.
- 3) You may also select additional channels for playback from the channel list on the right side of the Playback interface.

- **By Using the Front Panel/Remote:**

- 1) Press the *PLAY* button on front panel to access the **Playback** mode.
- 2) Enter the channel you want to view record video from the front panel or remote control (i.e. press 'SHIFT', the STATUS light will turn green, then press '01' for channel 1, press '02' for channel 2).
- 3) Recordings will start for the selected channel.

**Note:** the record video for playback is of the previous 5 minutes.

- **Multi-camera Playback**

- 1) Select the cameras from the camera list you want to have simultaneous playback.
- 2) Click  to stop the ongoing video playback.
- 3) Click  to start multi-camera simultaneous playback.

**Note:**

- 1) Up to 16 cameras can be played back simultaneously.
- 2) The camera list operation is accessible by mouse only. Please do not operate by front panel.
- 3) If the camera numbered the lowest among the multiple cameras selected for simultaneous playback provides no record files of the current day selected from the calendar, then the warning message "Playback failed" will be displayed on the screen.
- 4) The video for simultaneous playback by multiple cameras selected from the camera list refers to the all-day record files of the selected day.

## 7.3 Playback by System Log

To play back video from the System Log:

- 1) Click Menu > Maintenance > Log Search to enter the Log Search dialog box, shown in following Figure.
- 2) Set **Major Type** to *Information*; set **Minor Type** to *Start Record* or *End Record*; and then select the **Start Time** and **End Time** as well. Click the *Search* button.
- 3) Click the Search button. A list of search results will be displayed. Select the video log to play back and click *Play*.

- 4) The selected recording then will begin to play in the Playback interface.

## 7.4 Playback Frame-by-Frame

To play back frame-by-frame in the Playback interface:

- **By Using a Mouse:**

- 1) Click the Slow Forward button on the Playback Control Panel until the speed changes to Single frame.
- 2) Click the Pause button to advance the video frame by frame.

- **By Using the Front Panel/Remote Control:**

- 1) Press the *Down* button to select the playback speed to *Single* frame.
- 2) Press the *Enter* button to advance the video frame by frame.

## 7.5 Digital Zoom

To use digital zoom in Playback mode:

- 1) Right click the mouse in Playback mode.
- 2) Select *Digital Zoom* from drop-down submenu.
- 3) Left click and drag the red box to the desired area for zooming. The zoomed image will be magnified by 4 times. An example is given in the following figure:

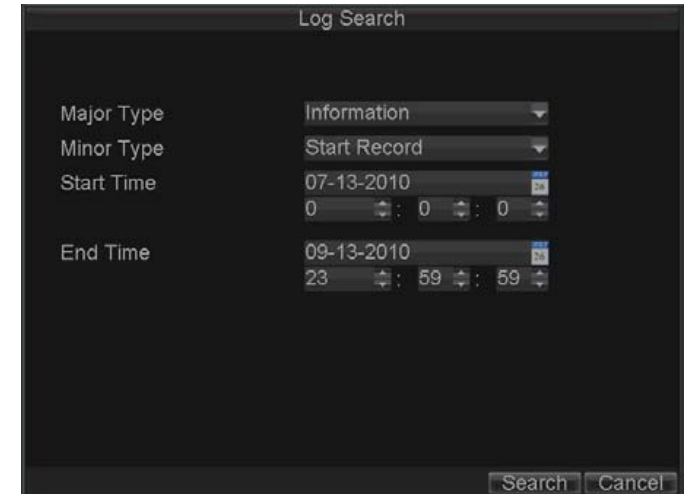
## 8 Backup

Recorded files can be backed up to various devices, such as USB flash drives, USB HDDs or a DVD writer.

### 8.1 Export Files

To export record files:

- 1) Click Menu > Video Export to enter the Export Video menu, shown in Figure 1.
- 2) Select desired parameters to search for files to export.
- 3) On the toolbar, press the *Export* button to enter the Record Backup menu.
- 4) Select the files to export, as shown in Figure 2. You may also click the *Play* button to confirm the record file you want to export.
- 5) The size of the currently selected files is displayed at the lower-left corner of the window. Click the *Next* button to enter the **Export** menu, shown in Figure 8.3.
- 6) Select device to which the record file is exported from drop-down list (USB Flash Drive, USB HDD, DVD Writer). If backup device is not recognized:
  - Click the *Refresh* button.
  - Reconnect device.
  - Check for compatibility from vendor.
- 7) Click *Start* to begin backup process, shown in Figure 8.4.
- 8) After the backup process has completed (Figure 5), you may select the files from your device and click the *Play* button to verify that it has been exported



successfully.

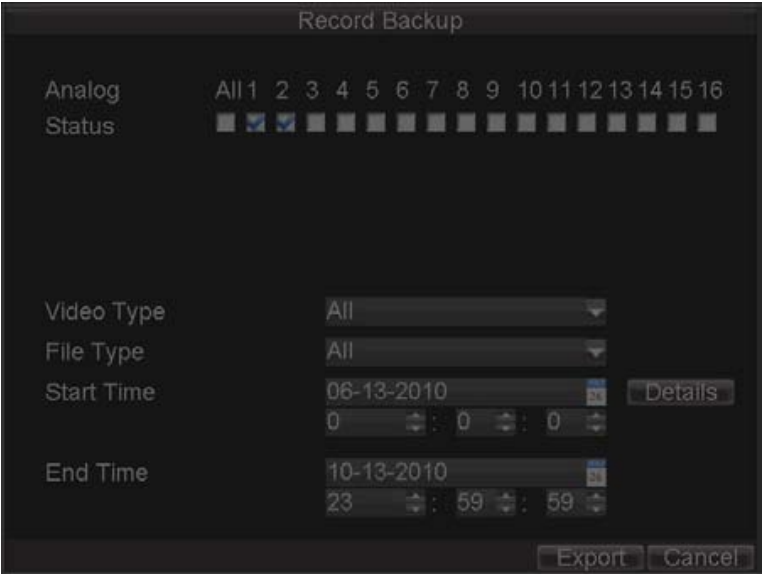


Figure 8.1. Export Video



Figure 8.2. Video Search Results



Figure 8.3. Export Menu



Figure 8.4. Backup Progress

**Note:** Video Player software will automatically be copied to the device that the recorded files were exported on.

## 8.2 Export Video Clip

You may also select video clips to export directly in Playback status. A maximum of 30 clips can be selected for each channel. To export video clips during Playback:

### • By Using the Mouse:

- 1) Enter the Playback interface (See *Video Playback*).
- 2) Click the *Clip Start/Stop* button on the Playback Control Panel, and select the start and end of the video clip during playback.
- 3) Repeat for additional clips.
- 4) Click the *Quit Playback* button to exit from the Playback interface. You'll then be prompted to save the clips, as shown in following figure.
- 5) Click the *Yes* button to enter Backup interface or select *No* to exit Playback interface.
- 6) At the Backup interface, select the *Start* button to begin the Backup process.

### • By Using the Front Panel / Remote:

- 1) Enter the **Playback** interface (See *Video Playback*).
- 2) During playback, press the *EDIT* button to mark start of clip.
- 3) Press the *EDIT* button again to mark end of clip.
- 4) Repeat for additional clips.
- 5) Press the *ESC* button to exit from the Playback interface. You'll then be prompted to save the clips, as shown in above Figure.
- 6) Click the *Yes* button to enter Backup interface or select *No* to exit Playback interface.
- 7) At the Backup interface, select the *Start* button to begin the Backup process.



Figure 8.5. Export Menu

## 8.3 Manage Backup Devices

To manage backup devices, you must first be in the Export menu, shown in Figure 8.5. The Export menu can be accessed by following the steps shown in the previous section (See *Exporting Files*).

Once in the Export menu, you may:

- **Create New Folder:** Creates a new folder on the export device.
- **Delete:** Delete a file or folder from the export device.
- **Play:** Play the selected video file from the export device.
- **Format:** Format the export device.
- **Erase:** Erase files from a re-writable CD/DVD.

## 9 Alarm Setup

### 9.1 Motion Detection Alarm

Operation steps to configure Motion Detection Recording:

- 1) **Enter Camera Setting:** Click Menu > Settings > Camera to access the Camera Settings menu, as shown in Figure 9.1.
- 2) Select the **Advanced** tab to enter the **Advanced Camera Settings** menu, shown in Figure 9.2.



Figure 9.1. Camera Management Interface

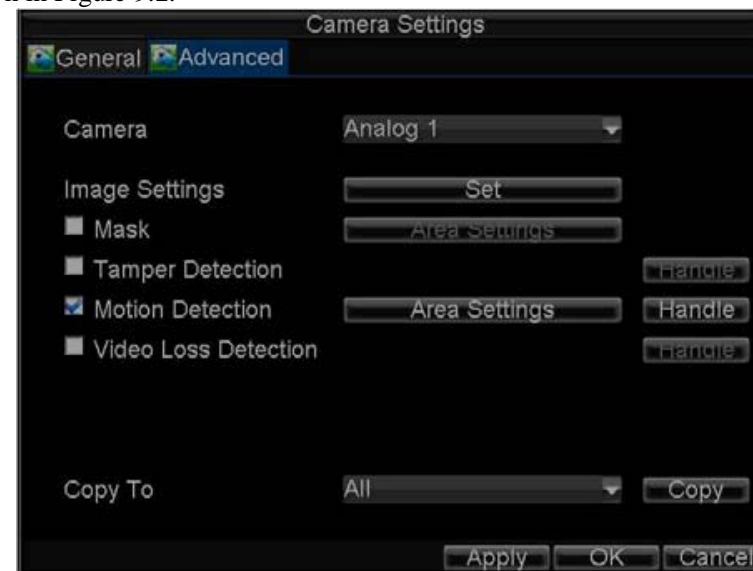


Figure 9.2. Advanced Camera Settings

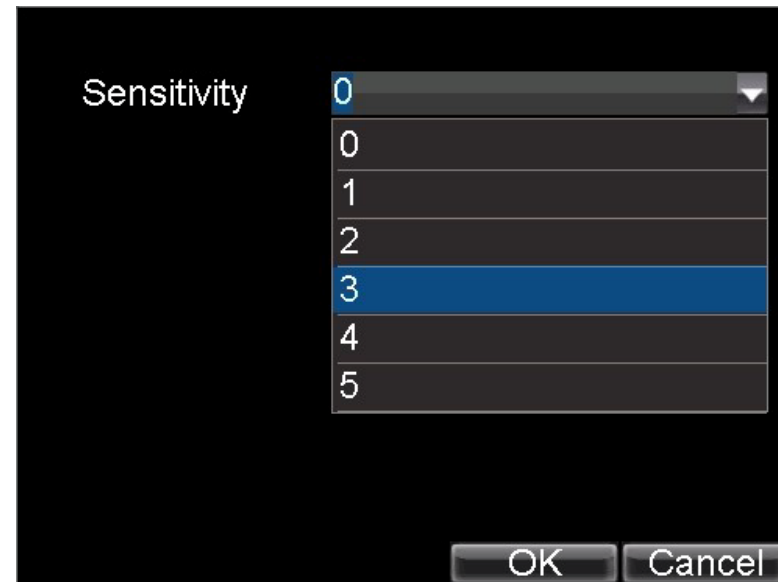


- 3) Select **Motion Detection** first and click the *Area Settings* button to enter the Motion Detection Area and Sensitivity settings interface.
- 4) As shown in Figure 9.3, the Motion Detection area allows you to mask areas you want to configure motion detection. The maximum area can be set to be full screen. You can left click mouse, hold and drag it to mask the Motion Detection area. Using *EDIT* button and direction buttons can also help you to select Motion Detection area.
- 5) Right click mouse or press the *MENU* button on the front panel to set the Motion Detection Sensitivity, shown in Figure 9.4. Higher sensitivity value corresponds to higher sensitivity level.
- 6) Click *OK* to return to the **motion detection area settings** interface.
- 7) Right click the mouse to select the *Exit* from the menu to return to the **Advanced Camera Settings** menu.
- 8) Click the *Handle* button to enter the **Exception Handle** menu, shown in Figure 9.5.
- 9) Select cameras to trigger for recording when motion is detected by checking the checkboxes under the desired cameras.
- 10) Select the **Schedule** tab. Set the schedule you want motion detection to be enabled. Schedule can be set for all week or any day of the week with up to 8 time periods per day.

**Note:** After having configured the schedule, the DVR must be restarted for the new settings to take effect.



**Figure 9.3. Motion Detection Area**



**Figure 9.4. Motion Sensitivity Settings**

- 11) Select the **Handle** tab to configure exceptions handling. Exception trigger options will be described in the next section (See *Understanding Exception Trigger Options*).
- 12) Click *OK* to complete motion settings for the selected camera. You may now add a schedule to start recording when motion is detected (See *Scheduling a Recording*).

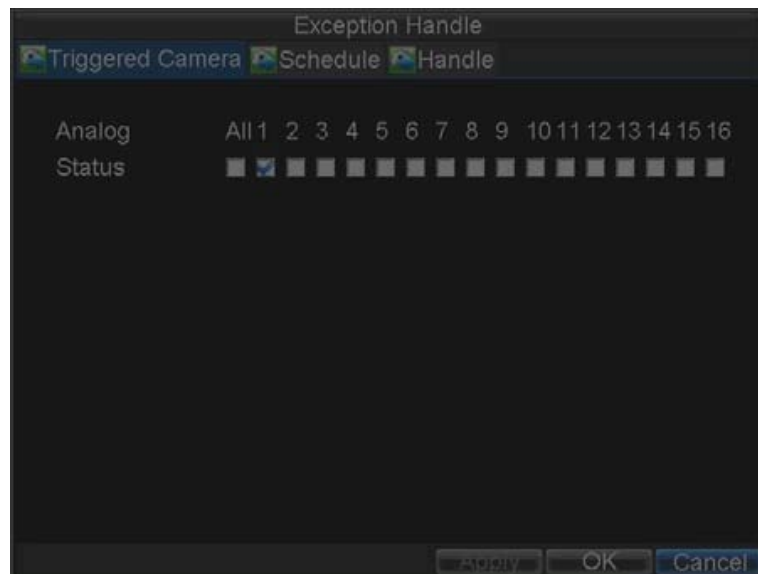


Figure 9.5. Triggered Camera Settings

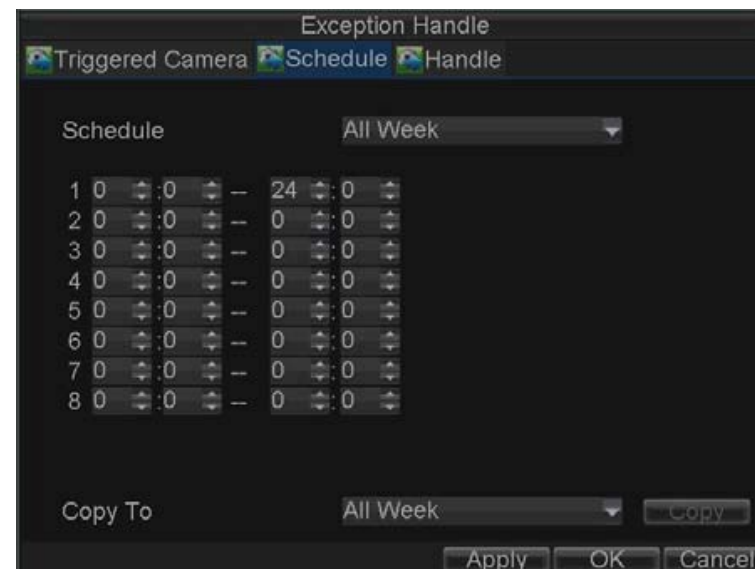


Figure 6. Schedule Settings

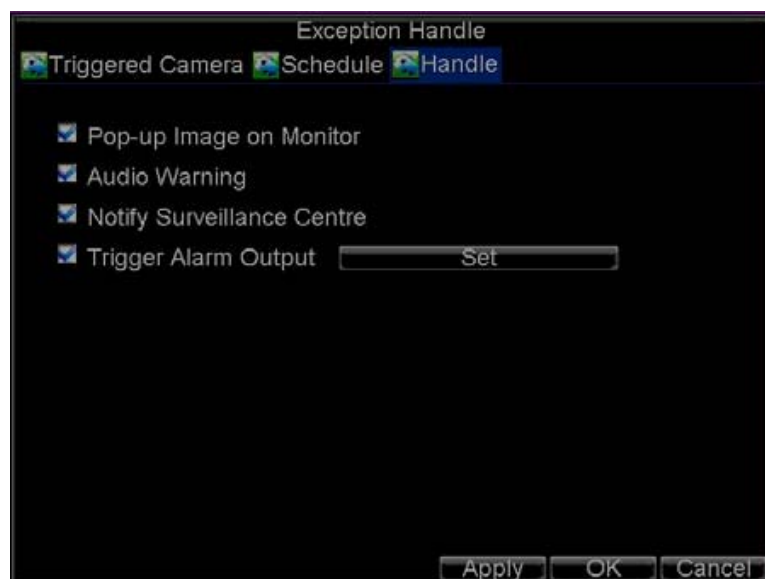


Figure 9.7. Handle Settings

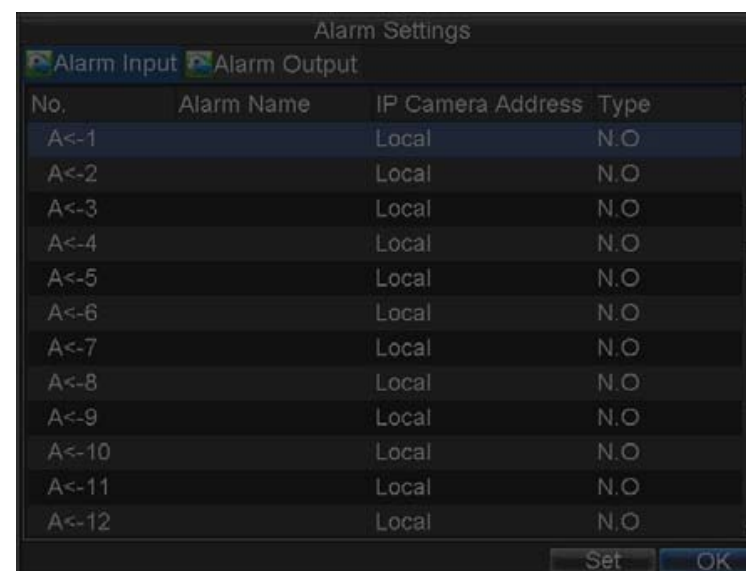


Figure 9.8. Alarm Management Menu

## 9.2 Sensor Alarm Settings



Recordings can also be triggered from an external relay alarm device. To set up sensor alarms:

- 1) Click Menu > Settings > Alarm to enter the Alarm Settings menu, shown in Figure 9.8.
- 2) Select the Alarm Input No. and click the *Set* button to enter the Alarm Input Settings menu, shown in Figure 9.9.
- 3) Set the alarm input type to be Normally Opened (N.O) or Normally Closed (N.C).
- 4) Check the checkbox next to **Setting** and click the *Handle* button to enter the Alarm Input Handle menu.
- 5) Select the **Triggered Camera** tab.
- 6) Select cameras to trigger for recording when alarm occurs by checking the checkboxes under the desired cameras, as shown in Figure 9.10.
- 7) User may select the PTZ camera to link with the alarm input and then set the call up of preset, patrol and pattern for alarm linked actions.
- 8) Click the *OK* button to complete setup.

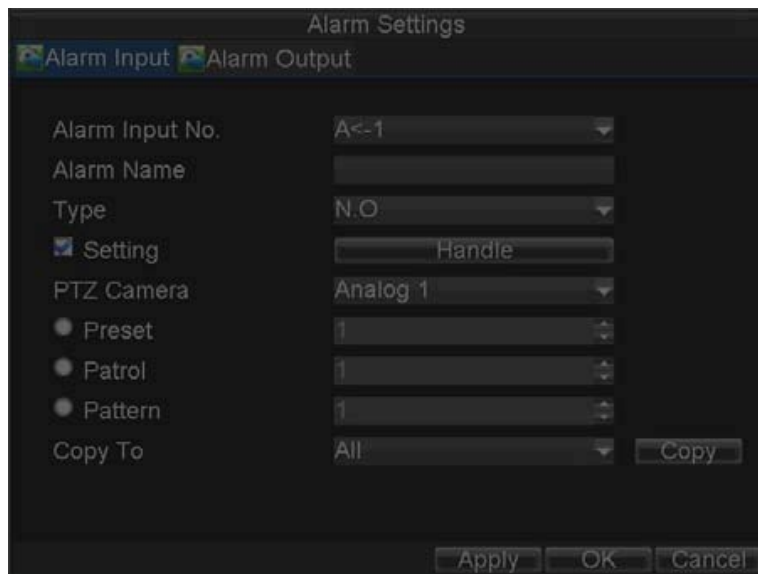


Figure 9.9. Alarm Management Settings

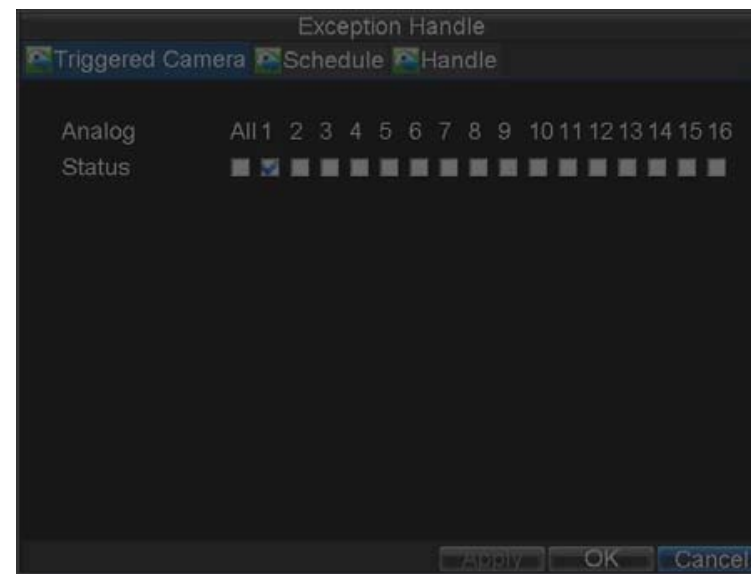


Figure 9.10. Triggered Cameras Menu

You may now add a schedule to start recording when an alarm is triggered (See *Scheduling a Recording*). Alarm outputs may also be configured in the **Alarm Management** menu. To set up Alarm Output:

- 1) Select the **Alarm Output** tab. This will bring up the Alarm Output interface, shown in Figure 9.11.
- 2) Select the output you would like to configure and click the *Set* button. This will bring up the settings page for the selected channel (Figure 9.12).
- 3) Configure the settings for selected output.
- 4) Select *OK* to save and exit.

**Note:** If the **Hold For** option is selected as *Manually Stop*, the alarm will only stop when you manually stop it (See *Triggering Alarm Outputs Manually*).

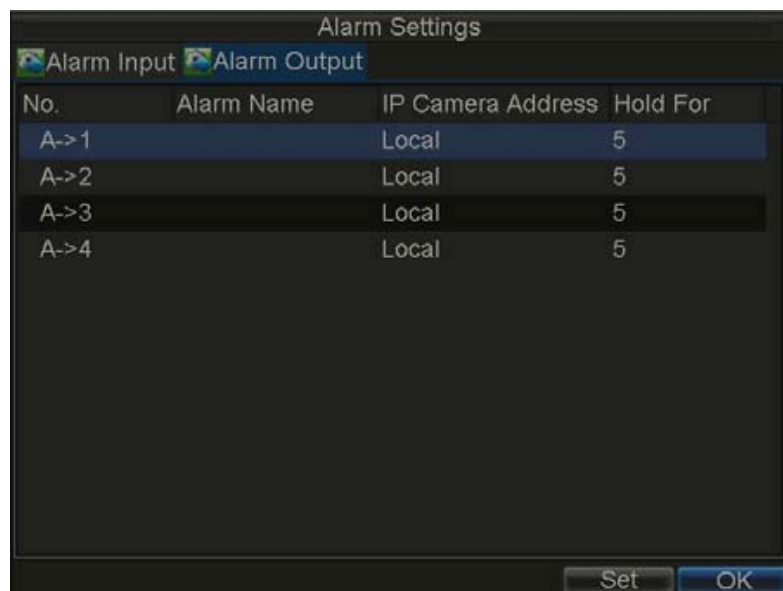


Figure 9.11. Alarm Output Interface

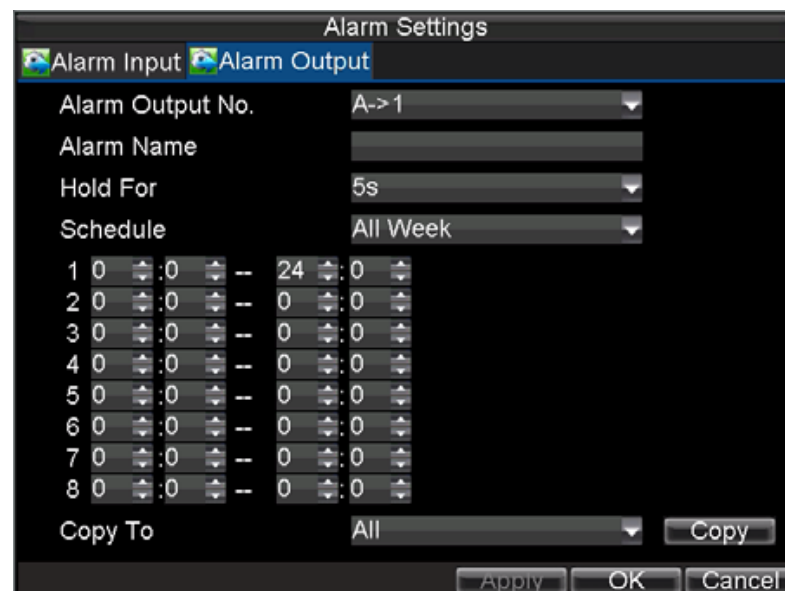


Figure 9.12. Alarm Output Settings

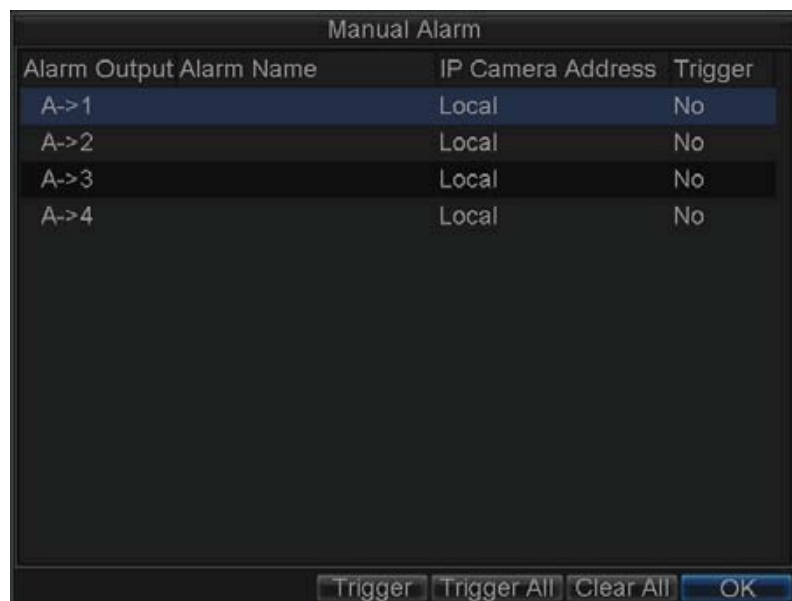


Figure 9.13. Manual Alarm Menu



Figure 9.14. Camera Management Menu

### 9.3 Manual Alarm Trigger

You may also trigger alarm outputs manually through the Manual Alarm menu. To trigger alarm outputs manually:

- 1) Click Menu > Manual Alarm to enter the Manual Alarm menu (Figure 9.13).
- 2) Configure the following settings in the Manual Alarm menu:

- **Trigger:** Select an alarm from the list and click *Trigger* to trigger its output.
- **Trigger All:** Trigger all alarm outputs at once.
- **Clear All:** Stop all alarm outputs at once.

- 3) Select *OK* to return to the previous menu.

### 9.4 Video Loss Detection

Your DVR can be set up to detect video loss and trigger an action. To set up video loss detection:

- 1) Click Menu > Settings > Camera to enter Camera Settings menu, shown in Figure 9.14.

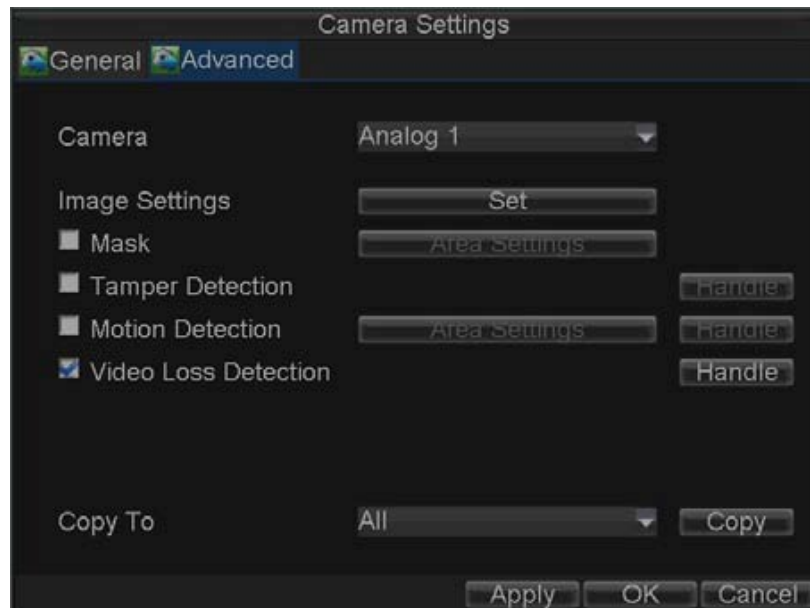


Figure 9.15. Camera Settings Menu

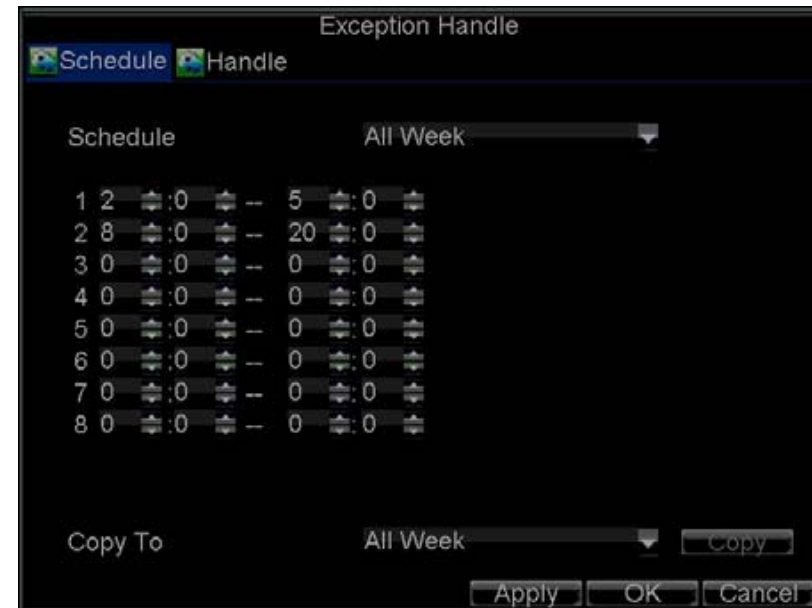


Figure 9.16. Schedule Settings for Video Loss Detection

- 2) Select the **Advanced** tab.
- 3) Select the camera to be configured with video loss detection.
- 4) Check the **Video Loss Detection** checkbox to enable this feature, as shown in Figure 9.15.
- 5) Click the *Handle* button to enter the Exception Handle menu, shown in Figure 9.16.
- 6) Select the **Schedule** tab. Set the schedule you want video loss detection to be enabled. Schedule can be set for all week or any day of the week with up to 8 time periods per day.
- 7) Select the **Handle** tab to configure exceptions handling. Exception trigger options will be described in the next section (See *Understanding Exception Trigger Options*).
- 8) Click *OK* to finish the settings.
- 9) Repeat above steps to configure settings for other channels.

**Note:** After having configured the schedule, the DVR must be restarted for the new settings to take effect.



Figure 9.17. Exception Handle Menu

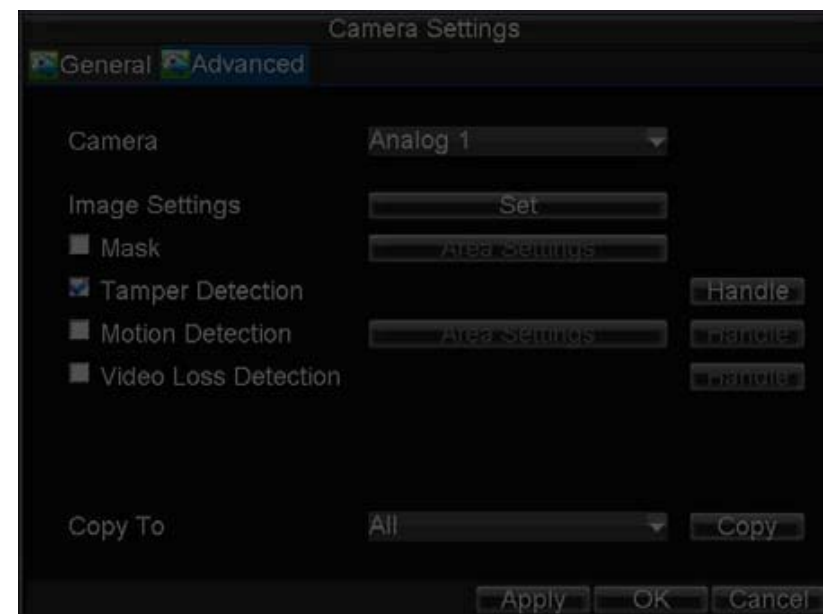


Figure 9.18. Camera Settings Menu

## 9.5 Video Tamper Detection

The video tampering detection area is in full-screen mode by default and cannot be configured. The video tampering can also be detected and set to trigger an action on your DVR. To set up video tempering detection:

- 1) Click Menu > Settings > Camera to enter the Camera Settings menu, shown in Figure 9.1.

- 2) Select the **Advanced** tab.
- 3) Select the camera to be configured with video tampering detection.
- 4) Check the **Tamper Detection** checkbox to enable this feature, as shown in Figure 9.18.
- 5) Click the **Handle** button to enter the Exception Handle menu, shown in Figure 9.19.
- 6) Select the *Schedule* tab. Set the schedule you want video tampering detection to be enabled. Schedule can be set for all week or any day of the week with up to 8 time periods per day.
- 7) Select the **Handle** tab to configure exceptions handling. Exception trigger options will be described in the next section (See *Understanding Exception Trigger Options*).
- 8) Click *OK* to finish the settings.
- 9) Repeat above steps to configure settings for other channels.

**Note:** After having configured the schedule, the DVR must be restarted for the new settings to take effect.

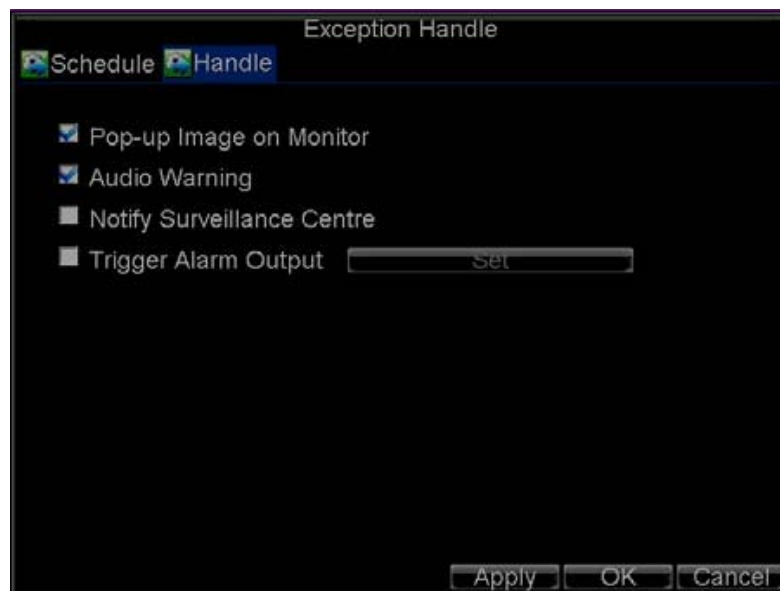


Figure 9.19. Exception Handle Menu

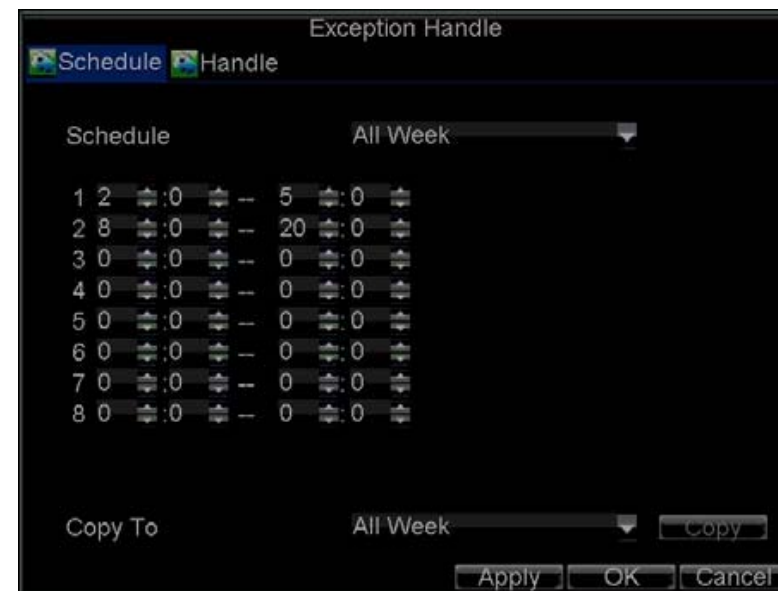


Figure 9.20. Schedule Settings for Video Tampering Detection

## 9.6 Exception Settings

The exception setting allows the DVR to alert you when irregular events occur. These events include:

- **HDD Full:** All installed HDD are full.
- **HDD Error:** Errors occurred during writing of the HDD, no HDD installed or HDD had failed to initialize.
- **Network Disconnected:** Disconnected network cable.
- **IP Conflict:** Conflict in IP address setting.

- **Illegal Login:** Incorrect user ID or password used.
- **Video Output Standard Mismatch:** video output standards do not match with each other.

To set exceptions:

- 1) Click Menu > Settings> Exception to enter the Exception menu.
- 2) Select the exception to configure under **Exception Type**.
- 3) Select triggering options, as shown in Figure22. Trigger options are further explained in the next section (See *Understanding Exception Trigger Options*).
- 4) Click *OK* to save settings and exit Exception menu.

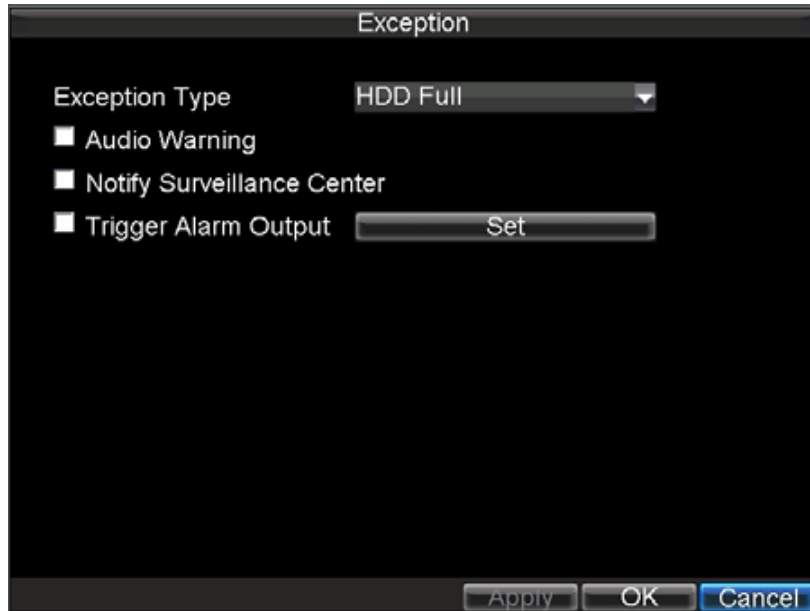


Figure 9.21. Exception Menu

## 9.7 Understand Exception Trigger Options

When setting up exception handlers for such features as motion detection and relay alarms, you may select triggering options to alert you of these exceptions. The triggering options that you may select include:

- **Pop-up Image on Monitor:** When an alarm is triggered, the local monitor (VGA or BNC monitor) will display an image in Live Preview mode. This alarm can be configured under the Popup Alarm Image handle method. For alarms that are triggered simultaneously, images will be displayed one at a time every 10 seconds (default dwell time). A different dwell time can be set by going to Menu > Setting > Display > Dwell Time. Once the alarm stops, cycling of the images will also stop and you'll be returned to the Live Preview screen.
- **Audio Warning:** Trigger an audible *beep* when exception is detected.

- **Notify Surveillance Centre:** Sends a signal to remote alarm host when exception is detected (See *Configure Remote Alarm Host*).
- **Trigger Alarm Output:** Trigger an alarm output when exception is detected. Alarm output can be configured by following the steps listed in *Setting up Sensor Alarms*.

## 10 Network Settings

### 10.1 Configure General Settings

To configure general network settings:

- 1) Click Menu > Settings > Network to enter the Network Settings menu, shown in Figure 10.1.
- 2) Select the **General** tab. Configure the settings on the interface.
- 3) If you have a DHCP server running and would like your DVR to automatically obtain an IP address and other network settings from that server, check the **DHCP** checkbox. You may check the DHCP status by going to the **Network Status** tab, as shown in Figure 10.2.

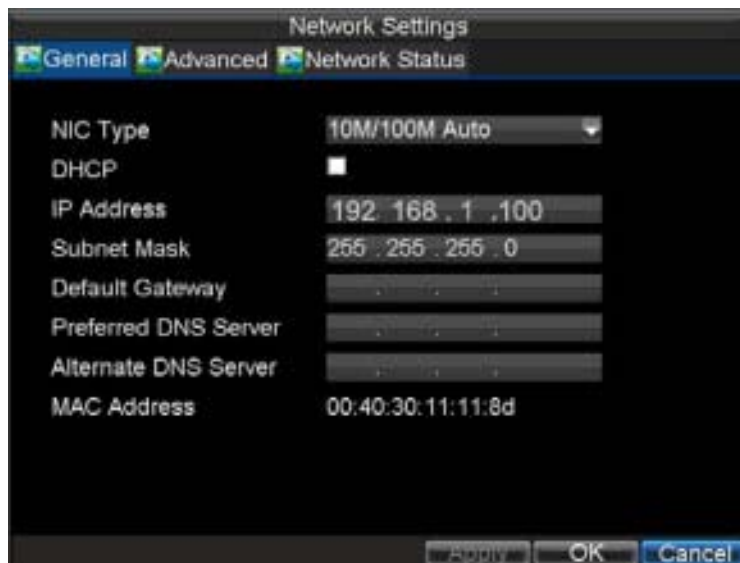


Figure 10.1. Network Settings Menu

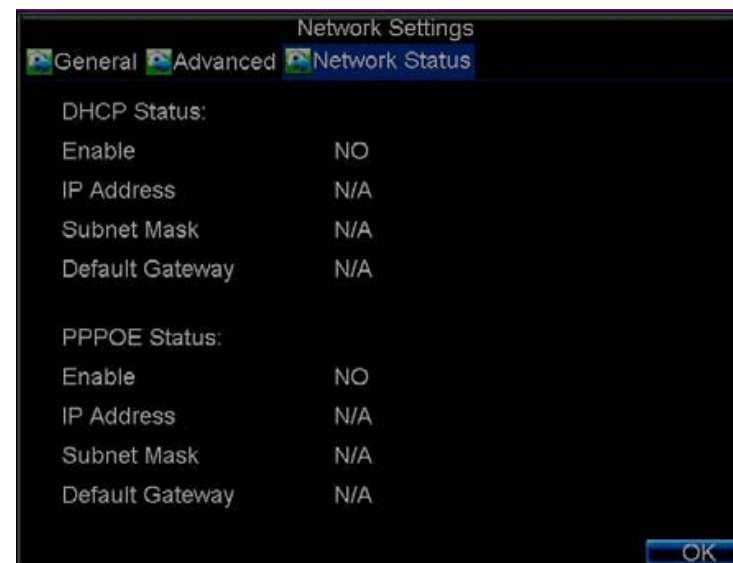


Figure 10.2. Network Status

- 4) If you want to configure your own settings, enter the settings for:
  - **IP Address:** IP address you would like to use for your DVR.
  - **Subnet Mask:** Subnet Mask of network.
  - **Default Gateway:** IP address of your Gateway. Typically the IP address of your router.
  - **Preferred/Alternate DNS Server:** The preferred and alternate Domain Name System (DNS) Server to be used with your DVR.
- 5) Click **OK** to save settings and exit the Network Settings menu.



## 10.2 PPPOE Settings

Your DVR also allows for Point-to-Point Protocol over Ethernet (PPPOE) access. To set up PPPOE access:

- 1) Click Menu > Settings > Network to enter the Network Settings menu.
- 2) Select the **General** tab, as shown in Figure 3.
- 3) Select the **Advanced** tab to enter the Advanced Network Settings menu, shown in Figure 4.
- 4) Click the *Set* button next to **PPPOE** to enter PPPoE Settings menu, shown in Figure 5.
- 5) Check the **PPPOE** checkbox to enable this feature.
- 6) Enter **User Name**, **Password**, and **Confirm Password** for PPPOE access. PPPOE credentials can be obtained from your network administrator. Once the setup is completed, your DVR will automatically *dial-up* into your network after reboot.
- 7) Click *OK* to save settings and exit Network Settings menu. You may be now asked to restart your DVR for settings to take place. To check on the status of your PPPOE connection, go to Menu > Setting > Network and select the **Network Status** tab.

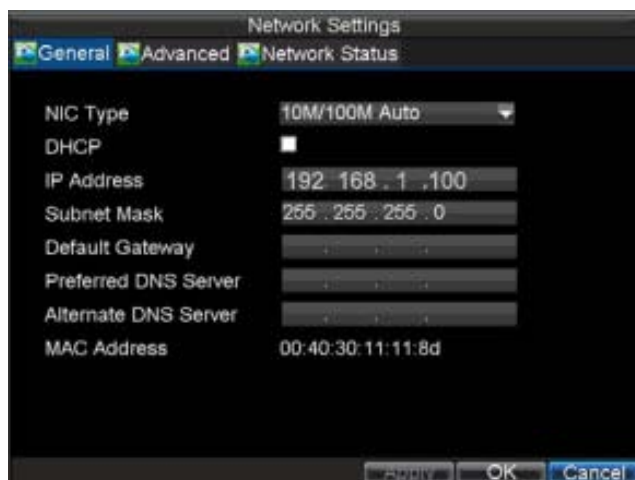


Figure 10.3. Network Settings Menu

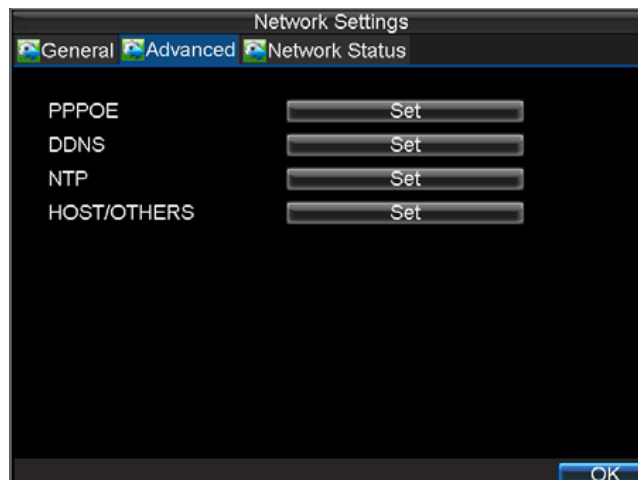


Figure 10.4. Advanced Network Settings



Figure 10.5. PPPoE Settings

## 10.3 Configure DDNS

If your DVR is setup to use PPPoE as its default network connection, you may set up Dynamic DNS (DDNS) to be used in connection. To set up DDNS:

- 1) Click Menu > Settings > Network to enter the Network Settings menu.
- 2) Select the **Advanced** tab.
- 3) Select the *Set* button next to **DDNS** to enter the DDNS settings menu, shown in Figure 10.6.
- 4) Check the **DDNS** checkbox to enable this feature.



- 5) Select **DDNS Type**. Three different DDNS types are selectable: IpServer, PeanutHull and DynDNS.
  - **IpServer:** Enter **Server Address** for IpServer. Refer to Figure 10.6.
  - **PeanutHull:** Enter **User Name** and **Password** obtained from the PeanutHull website (Figure 10.7).
  - **DynDNS:** Enter **Server Address** for DynDNS (i.e. members.dyndns.org). Under DVR Domain Name, enter the domain obtained from the DynDNS web site. Finally, enter the **User Name** and **Password** registered in the DynDNS network.

Figure 10.6. DDNS Settings Menu

Figure 10.7 DynDNS Settings

## 10.4 NTP Server Settings

A Network Time Protocol (NTP) Server may also be set up on your DVR to maintain accurate current date and time. To set up an NTP server:

- 1) Click Menu > Settings > Network to enter the Network Settings menu.
- 2) Select the **Advanced** tab.
- 3) Click the *Set* button next to **NTP** to enter the NTP Settings menu, as shown in Figure 10.8.
- 4) Check the **NTP** checkbox to enable this feature.
- 5) Configure NTP settings:
  - **Synchronize Interval:** Time in minutes to synchronize with NTP server.
  - **NTP Server:** Address of NTP server.

**Note:** The address can be set to the IP address or the Domain name. When the Domain name is used, please set the DNS server address.

- 6) Click *OK* to save settings and exit the NTP Settings menu.

**Note:** Time synchronization interval has a range of 0-10080 min, normally 7200 min. If the DVR is used on a public network, you should use a NTP server that has a time synchronization function, such as the server at the National Time Center (IP Address: 210.72.145.44). If the DVR is setup in a more customized network, NTP software can be used to establish a NTP server used for time synchronization.

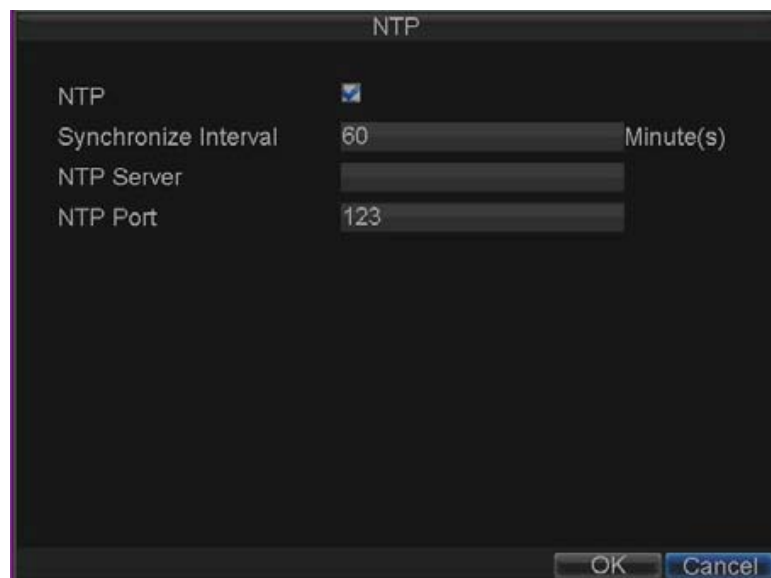


Figure 10.8. NTP Settings Menu

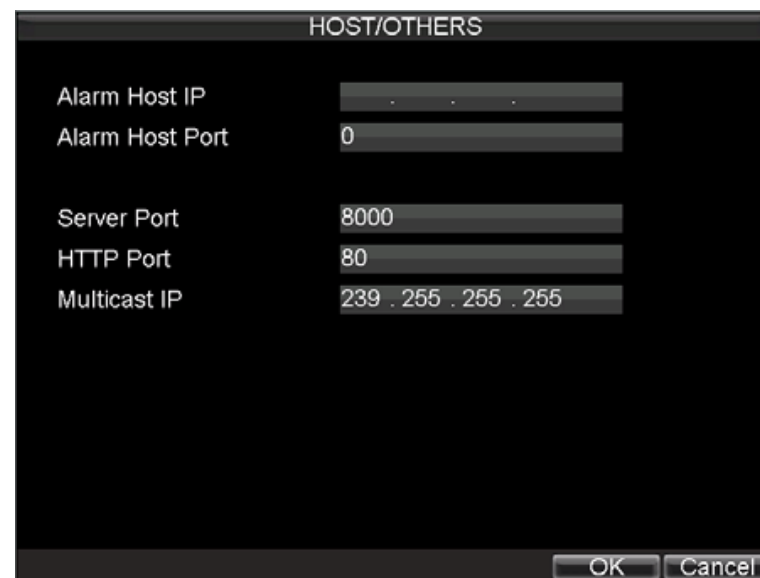


Figure 10.9. Host/Others Menu

## 10.5 Remote Alarm Host Settings

With a remote alarm host set, the DVR will send a signal to the host when an alarm is triggered. The remote alarm host must have the Network Video Surveillance software installed. To set up a remote alarm host:

- 1) Enter Network settings menu by clicking Menu > Setting > Network.
- 2) Select the **Advanced** tab.
- 3) Click the Set butt next to **Host/Others** to enter the Host/Others menu, as shown in Figure 10.9.
- 4) Enter **Alarm Host IP** and **Alarm Host Port**. Alarm Host IP is the IP of the remote PC which has the Network Video Surveillance software installed. The Alarm Host Port must be the same as software's alarm monitor port (default port is 7200).

## 10.6 Configure Multicast

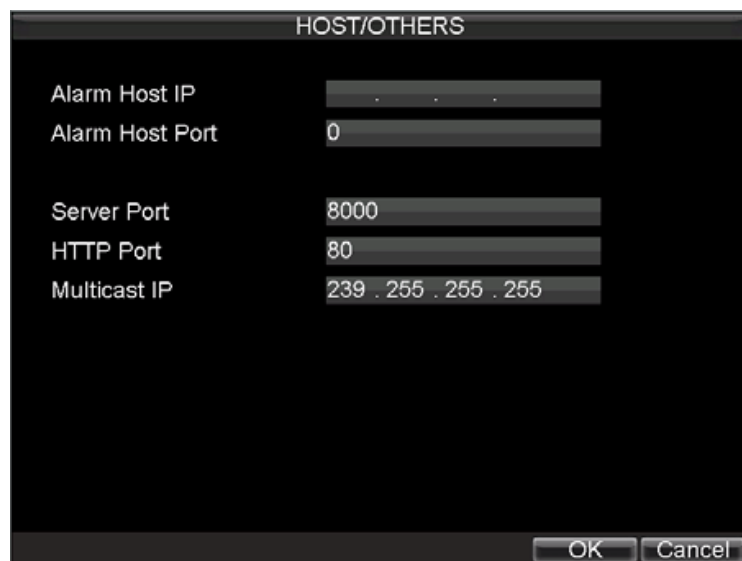
Setting up multicasting solves limitation issues when streaming videos through a network access device. A multicast address spans the Class-D IP range of 224.0.0.0 to 239.255.255.255. It is recommended to use the IP address range from 239.252.0.0 to 239.255.255.255. To set up multicast:

- 1) Click Menu > Settings > Network to enter the Network Settings menu.

- 2) Select the **Advanced** tab.
- 3) Click the *Set* button next to **Host/Others** to enter the Host/Others menu.
- 4) Set **Multicast IP**, as shown in Figure 10. When adding a device to the Network Video Surveillance software, the multicast address must be the same with the DVR's multicast IP.
- 5) Click *OK* to save settings and exit the Host/Others menu.

## 10.7 Configuring Server and HTTP Ports

If you would like to change the server and HTTP ports from the default settings, you can do so in the Network Settings menu. The default server port is 8000 while the default HTTP port is 80. To change the default ports:



**Figure 10.10. Host/Others Menu**

- 1) Click Menu > Settings > Network to enter the Network Settings menu.
- 2) Select the **Advanced** tab.
- 3) Click the *Set* button next to **Host/Others** to enter the Host/Others menu.
- 4) Enter new **Server Port** and **HTTP Port**, as shown in Figure 10.10.

**Note:** The Server Port has a port range of 2000-65535 and is used for remote client software access. The HTTP port is used for remote Internet browser access.

## 11 PTZ Control

PTZ menus can be navigated through with either the mouse or the front panel/remote. For quick access to certain PTZ settings, right clicking with the mouse in a display while in PTZ control mode will enter the PTZ settings menu. The items that can be found on this menu include:

- **Camera:** Select a PTZ camera.
- **Call Preset:** Call a PTZ preset.
- **Call Patrol:** Call a PTZ sequence.
- **Call Pattern:** Call a PTZ pattern.
- **Preset Settings:** Enter PTZ preset configuration menu.
- **Patrol Settings:** Enter PTZ sequence configuration menu.
- **Pattern Settings:** Enter PTZ pattern configuration menu.
- **PTZ Menu:** Enter PTZ control menu.
- **PTZ Settings:** Enter PTZ settings menu.

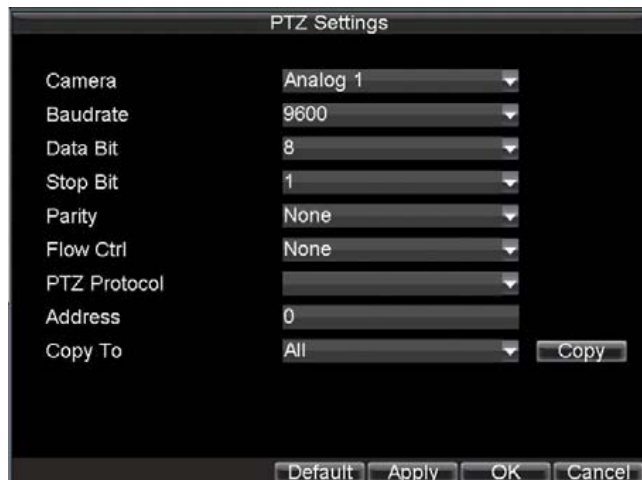


Figure 11.1. PTZ Settings Menu



Figure 11.2. PTZ Control Interface

### 11.1 Configure PTZ Settings

Settings for a PTZ camera must be configured before it is used. Before proceeding, verify that the PTZ and RS-485 of the DVR are connected properly. To configure PTZ settings:

- 1) Click Menu > Settings > PTZ to enter the PTZ Settings menu, shown in Figure 11.1.
- 2) Select channel where PTZ camera is installed next to **Camera** label.

- 3) Configure the settings of baud rate, data bit, stop bit, parity, flow control, PTZ protocol and address.
- 4) Click *OK* to save settings and exit the PTZ Settings menu.

**Note:** All setting parameters (baud rate, data bit, stop bit, parity, flow control, PTZ protocol and address) must be consistent with the PTZ camera connected.

## 11.2 Understand PTZ Controls

The PTZ control panel provides a series of PTZ controls, shown in Figure 11.2. The controls on the PTZ panel include:

- 1) **Directional Pad/Auto-scan Buttons:** Controls the movements and directions of the PTZ. The center button is also used to start auto-scan of PTZ.
- 2) **Zoom:** Used to zoom in and out with the PTZ.
- 3) **Focus:** Used to adjust the focus of the PTZ.
- 4) **Iris:** Used to open up or close the iris of the PTZ.
- 5) **Speed:** Adjusts the movement speed of the PTZ.
- 6) **Light:** Turns PTZ light (if applicable) on and off.
- 7) **Wiper:** Turns PTZ wiper (if applicable) on and off.
- 8) **Zoom In:** Instantly zooms PTZ in.
- 9) **Center:** Centers PTZ.

## 11.3 Customize Presets

Presets can be set to move your PTZ camera to a desired *preset* location. To set up and call custom PTZ presets:

- 1) Enter the PTZ Control interface, shown in Figure 11.3, by selecting PTZ from the mouse menu or clicking the *PTZ* button on the front panel.
- 2) Select the *Preset* button to enter the Preset Management menu.
- 3) In the Preset Management menu, you may:
  - **Configure Preset:** Use the PTZ control panel to adjust the position of the preset. Select a Preset number and click the *Set* button to save preset location.
  - **Clear Preset:** Select a Preset number and click the *Clear* button to delete the preset. You may also select the *Clear All* button to delete all presets.
  - **Call Preset:** Select a Preset and click the *Call* button.

**Note:** Only valid presets can be called and deleted.



Figure 11.3. Preset Management Menu



Figure 11.4. Patrol Management Menu

## 11.4 Customize Patrols

Patrols can be programmed to move the PTZ to different key points and make it stay there for a defined duration before moving on to the next point. The key points are defined by presets which can be set by following the steps above in *Customize Presets*. To set up and call PTZ patrols:

- 1) Enter the **PTZ Control** interface, shown in Figure 11.4, by selecting PTZ from the mouse menu or clicking the *PTZ* button on the front panel.
- 2) Select the *Patrol* button to enter the Patrol Management menu, shown in Figure 11.5.
- 3) In the **Patrol Management** menu, you may:
  - **Configure Patrol:**
    - 1) Select a **Patrol Number** to set.
    - 2) Select valid presets (See *Customize Presets*) and click the Set button to enter the Patrol configuration menu. A sequence should have at least 2 valid presets.
    - 3) Set the **Key Point No.**, **Duration**, and **Speed** (Figure 11.6). The **Key Point No.** determines the order at which the PTZ will follow while cycling through the patrol. The **Duration** refers to the time span to stay at the corresponding key point. The **Speed** defines the rate at which the PTZ will move to the current preset.
    - 4) Click *OK* to return to **Patrol Management** menu and repeat steps 2-3 to configure other key points.
    - 5) After all key points have been configured, click the defined key point No. and then click *Add* button to complete the settings.
    - 6) Click *OK* button to save settings and exit the current menu.
  - **Clear Patrol:**
    - 1) Select a valid Patrol Number.

- 2) Click the *Clear* button to delete patrol.

• **Call Patrol:**

- 1) Select a valid Patrol Number.
- 2) Click the Start button to call the patrol, and select the Stop button to stop the patrol, as shown in Figure 11.7.



Figure 11.6. Patrol Configuration Menu



Figure 11.7. Patrol Management Menu



Figure 11.8. Pattern Management Menu

## 11.5 Customize Patterns

Patterns can be setup by recording the movement of the PTZ. To set up and call PTZ patterns:

- 1) Enter the PTZ Control interface, shown in Figure 3, by selecting PTZ from the mouse menu or clicking the *PTZ* button on the front panel.
- 2) Select the *Pattern* button to enter the **Pattern Management** menu, shown in Figure 8.
- 3) Select a **Pattern Number**.
- 4) To record a new pattern, select the Run Record button to start recording of the movements of the PTZ. Use the PTZ control panel to move the PTZ. The PTZ movements will be recorded until the Stop Record button is clicked.
- 5) To run a pattern, click the *Run Pattern* button on a valid pattern. The PTZ will move according to the path that was defined until Stop Pattern is clicked.
- 6) Click *OK* to exit the current menu.

## 12 Camera Management

### 12.1 OSD Settings



On Screen Display (OSD) settings can be configured in the Camera Management menu. The OSD is shown in each display during Live Preview mode and includes the time and date as well as the camera name. To configure OSD settings:

- 1) Click Menu > Settings > Camera to enter the Camera Settings menu, shown in Figure 12.1.
- 2) Select channel to set up OSD settings under **Channel No.**, and click the *Set* button.
- 3) Configure desired OSD settings, as shown in Figure 1.
- 4) Click the *Set* button to edit the OSD display position, including the camera name position and the date/time display position.

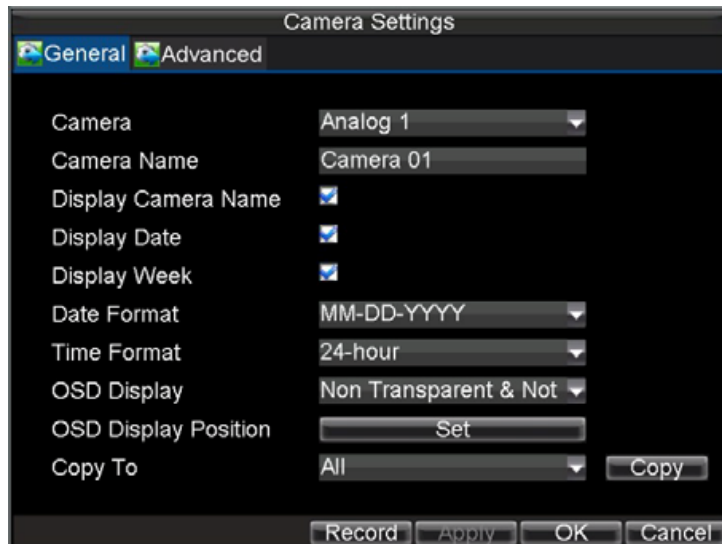


Figure 12.1. OSD Settings Menu

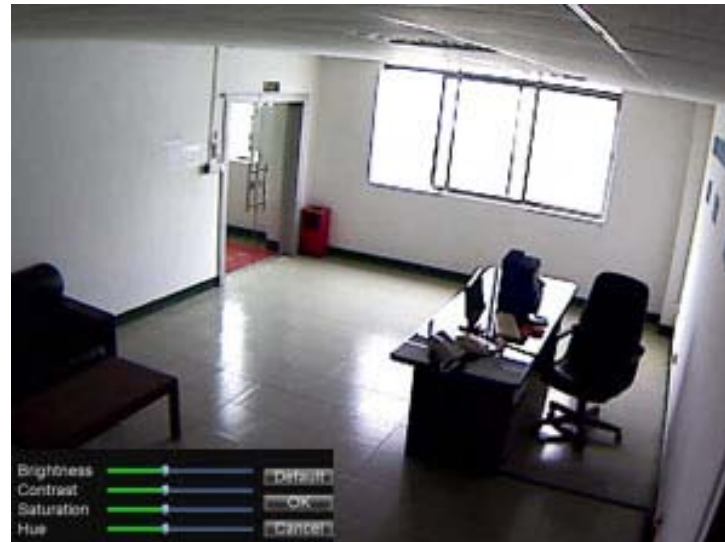


Figure 12.2. Display Settings

## 12.2 Display Settings

Display settings such as the brightness, contrast, saturation and hue can also be adjusted in the Camera Management menu. To adjust display settings:

- 1) Click Menu > Settings > Camera to enter the Camera Settings menu, shown in Figure 12.1.
- 2) Click the **Advanced** tab to enter the Advanced Camera Settings menu, as shown in Figure 12.3. Select channel for image settings in **Camera**.
- 3) Click the *Set* button next to the Image Settings label.
- 4) Adjust the display settings, as shown in Figure 12.2. Brightness, contrast, saturation and hue can be adjusted in the menu. The adjustments of display settings will affect the live images and the recorded images.

## 12.3 Privacy Mask Settings



You may setup privacy mask to mask off sensitive or private areas in the field of view of a camera. To setup privacy mask:

- 1) Click Menu > Settings > Camera to enter the Camera Settings menu.
- 2) Click the **Advanced** tab to enter the Advanced Camera Settings menu, as shown in Figure 1. Select channel for privacy mask settings in **Camera**.
- 3) Check the **Mask** checkbox to enable feature.
- 4) Click the *Area Settings* button to enter Area Settings menu.
- 5) Set mask area, as shown in Figure 12.4. Up to 4 areas can be set.
- 6) Select *Exit* to save settings and exit the Mask Area Settings interface.

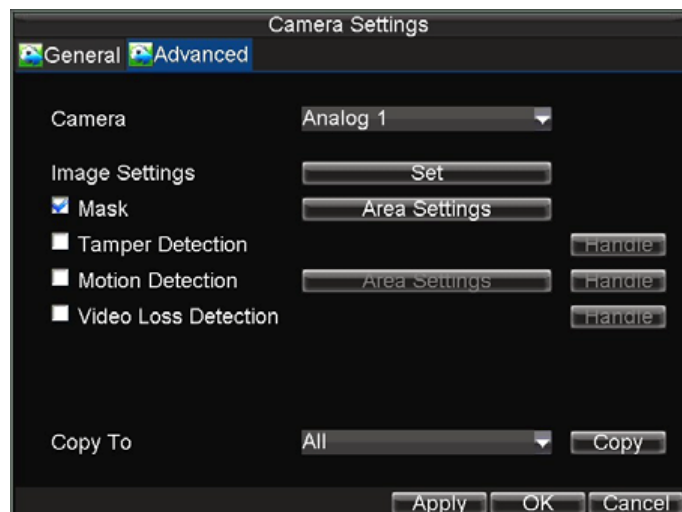


Figure 12.3. Advanced Camera Settings Menu



Figure 12.4. Setting Mask Area

## 13 HDD Management

### 13.1 Initializing HDDs

A newly installed hard disk drive (HDD) must be first initialized before it can be used with your DVR. Initializing the HDD will erase all data on it. To initialize a HDD:

- 1) Click Menu > HDD to enter the HDD Management menu, shown in Figure 13.1.
- 2) Select HDD to be initialized.
- 3) Click the *Init* button.
- 4) Select *OK* button to start initialization. After the HDD has been initialized, the status of the HDD will change from *Abnormal* to *Normal*.

### 13.2 Set HDD Groups

Your DVR can separate multiple HDDs into groups. Videos from specified channels can be set to be recorded onto a particular HDD group. To set up a HDD group:

- 1) Click Menu > HDD to enter the HDD Management menu.
- 2) Select HDDs to be added to group.
- 3) Select *Group* button to enter Group Settings menu.
- 4) Set the **HDD Group Number**, as shown in Figure 13.2.
- 5) Select *OK* to save settings and exit the Group Settings menu.

**Note:** By default settings, all HDDs belong to group 1.



Figure 13.1. HDD Management Menu



Figure 13.2. HDD Group Settings Menu

### 13.3 Set HDD Status

You may change the behavior of your HDD by changing its status. The status of a HDD can be set to read-only or read/write (R/W).

#### 13.3.1 Setting HDD to Read-Only

A HDD can be set to read-only to avoid important recorded files from being overwritten when the HDD becomes full. To set a HDD to read-only:

- 1) Click Menu > HDD to enter the HDD Management menu.
- 2) Select HDD to be protected.
- 3) Select the *Property* button to enter the Property Settings menu, as shown in Figure 13.3.
- 4) Set HDD Status to Read-Only.

- 5) Select *OK* to save settings and exit the current menu.

**For your attention:**

- Once set to read-only, the HDD cannot be written to until it is set back to read/write (R/W).
- DS-7204HVI-ST and IL7104HV-A/L model can be installed with one HDD only, therefore, when the property is set to read-only, the recording of the device will be stopped.

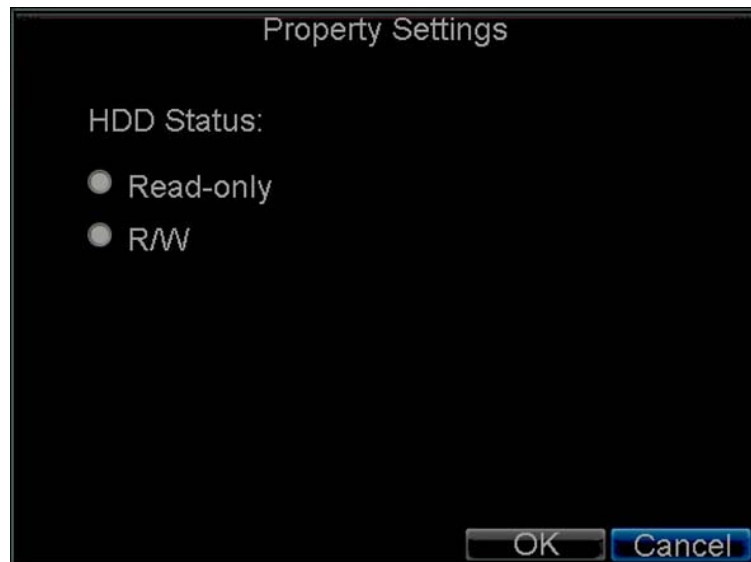


Figure 13.3. HDD Property Settings Menu

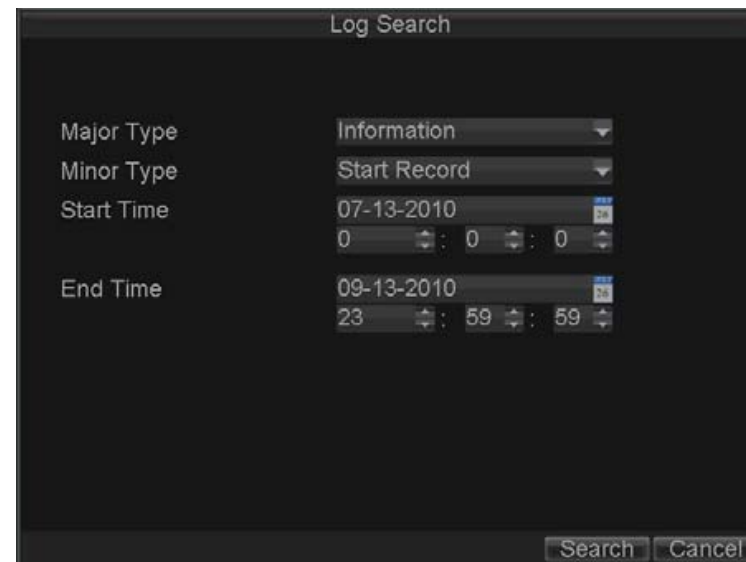


Figure 13.4. Log Search Menu

### 13.3.2 Checking HDD Status

You may check the status of the installed HDDs on your DVR at anytime. To check the status of a HDD:

- 1) Click Menu > HDD to enter the HDD Management menu.
- 2) The status of your HDD is listed under the **Status** column. If the status is listed as *Normal* or *Hibernate*, the HDD is in working order. If it is listed as *Abnormal* and has already been initialized, the HDD needs to be replaced. If the HDD is *Uninitialized*, you will need to initialize it before it can be use in your DVR. Please refer to *Initializing HDDs* for further instructions.

You may also view the SMART information of installed HDD SMART, abbreviation for Self-Monitoring, Analysis and Reporting Technology, is a monitoring system for hard disk drives to detect and report on various indicators of reliability in the hopes of anticipating failures. To view SMART information of a HDD:

- 1) Click Menu > Maintenance > Log Search to enter the Log Search menu, shown in Figure 13.4.
- 2) Set **Major Type** to *Information*.
- 3) Set **Minor Type** to *HDD SMART*.
- 4) Enter **Start Time** and **End Time**.

5) Click the *Search* button to begin log search. A list of results, similar to that of Figure 13.5, will be returned. Select log item to view and click the *Details* button. A detail list of SMART information, as shown in Figure 13.6, will be displayed.



Figure 13.5. Log Search Results



Figure 13.6. HDD SMART Information

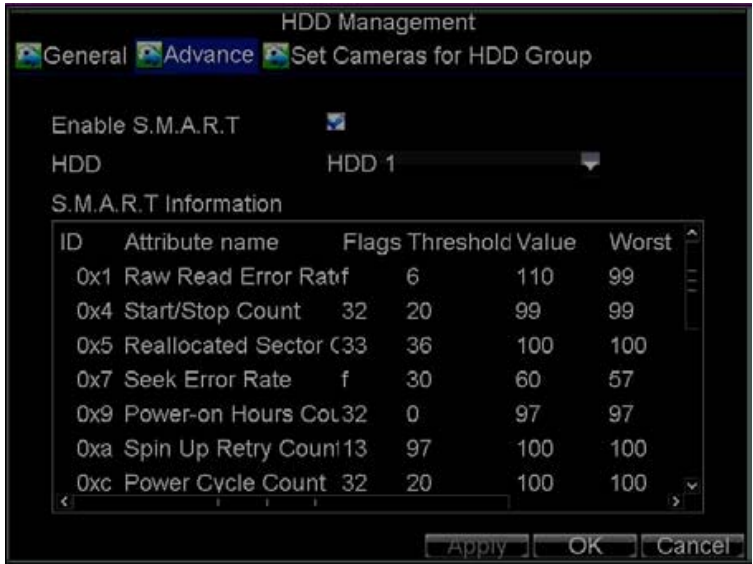


Figure 13.7. HDD SMART Menu



Figure 8. Exception Menu

User can also click Menu > HDD to enter the HDD management menu, as shown in Figure 13.1, and then select the **Advance** option to enter the SMART menu, as shown in Figure 13.7. User can enable the SMART function and view the SMART information as well.

## 13.4 Configure HDD Alarms

HDD alarms can be set to trigger when an HDD is uninitialized or in an abnormal state. To set HDD alarms:

- 1) Click Menu > Settings > Exception to enter Exception menu, shown in Figure 13.8.
- 2) Select HDD Error under **Exception Type**.
- 3) Select trigger action. Trigger actions are further explained in *Understanding Exception Trigger Options*.

## 13.5 HDD Storage Calculation Chart

The following chart shows an estimation of storage space used based on recording at one channel for an hour at a fixed bit rate.

Bit Rate	Storage Used		Bit Rate	Storage Used
96K	42M		512K	225M
128K	56M		640K	281M
160K	70M		768K	337M
192K	84M		896K	393M
224K	98M		1024K	450M
256K	112M		1280K	562M
320K	140M		1536K	675M
384K	168M		1792K	787M
448K	196M		2048K	900M

**Note:** Please note that supplied values for storage space used is just for reference. Storage space used is estimated by formulas and may have some deviation from actual value.

# 14 DVR Management

## 14.1 Configure General Settings

General settings such as the system language can be configured in the General Settings menu of your DVR. To configure general settings:

- 1) Click Menu > Settings > General to enter the General Settings menu, shown in Figure 14.1.
- 2) Select the **General** tab.
- 3) Configure general settings, including:
  - **Language:** Default language used in DVR menus.

- **CVBS Output Standard:** Video output standard: NTSC and PAL.
- **VGA Resolution:** VGA output resolution.
- **Time Zone:** Time zone to use for DVR.
- **Menu Date Format:** Format for date.
- **System Time:** System time and date.
- **Mouse Pointer Speed:** Speed of mouse pointer.
- **Enable Password:** Enable/disable system password.

**Note:** If the video standard is different between the input and the output, you may notice flickering in Live Preview mode. After having modified the video standard, please reboot the device to validate the settings.

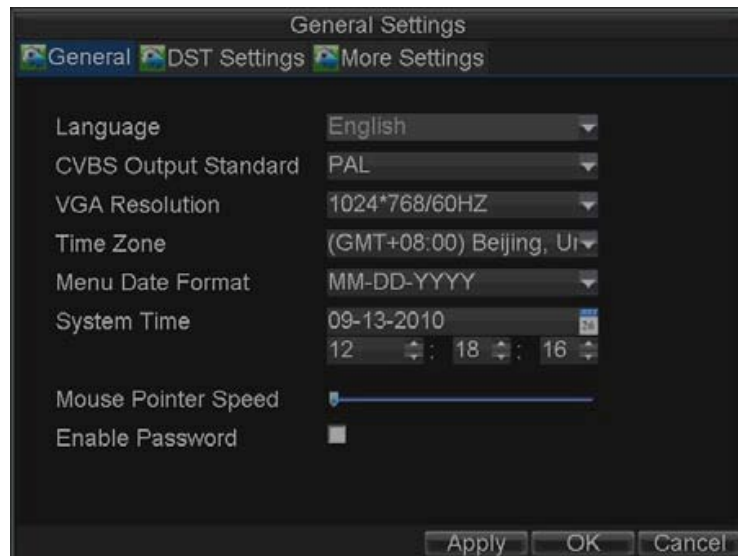


Figure 14.1. General Settings Menu

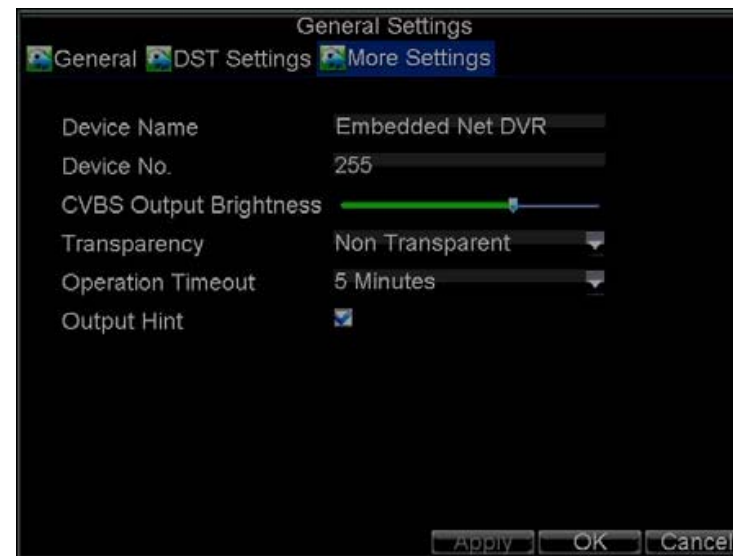


Figure 14.2. More Settings Menu

## 14.2 Configure Advanced Settings

To configure more advanced settings:

1. Click Menu > Settings > General to enter the General Settings menu, shown in Figure 14.1.
2. Click the **More Settings** tab to enter the More Settings menu, shown in Figure 14.2.
3. Configure the following settings:
  - **Device Name:** Name of the DVR used.
  - **Device No.:** Device number of DVR.
  - **CVBS Output Brightness:** Video output brightness.

- **Transparency:** Menu transparency.
- **Operation Timeout:** Set timeout time for menu inactivity. For example, if timeout time was set to 5 minutes, after 5 minutes of inactivity in the General Settings menu, you'll be returned to the Live Preview.
- **Output Hint:** Enable/disable video output hint for main or aux video output.

### 14.3 RS-232 Port Settings

To configure RS-232 devices to be used with the DVR:

- 1) Click Menu > Setting > RS232 to enter the RS-232 Settings menu, shown in Figure 14.3.
- 2) Configure RS-232 Settings.
- 3) The RS-232 port can be used in two ways:
  - **Parameter Control:** Connect a PC to the DVR using the PC serial port. Device parameters can then be set using software such as HyperTerminal. The serial port parameters must be the same as the DVR's when connecting with the PC serial port.
  - **Transparent Channel:** Connect a serial device directly to the DVR. The serial device will be controlled remotely by the PC through the network and the protocol of the serial device.



Figure 14.3. RS-232 Settings Menu

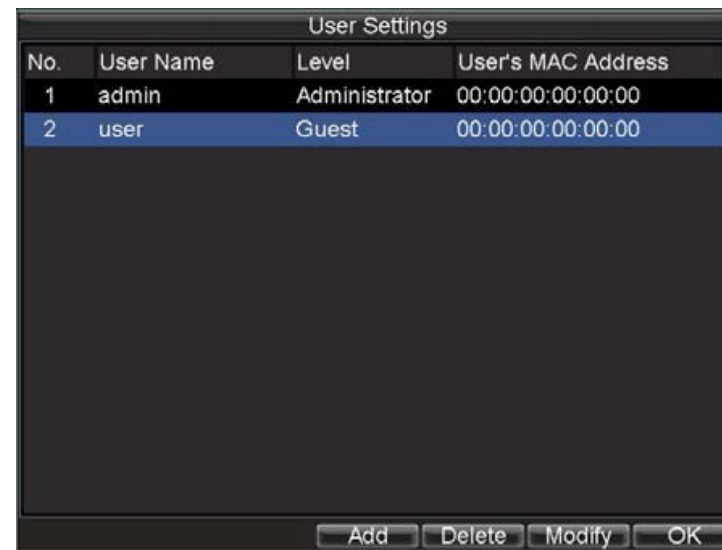


Figure 14.4. User Settings Menu

### 14.4 Managing User Accounts

By default settings, your DVR is configured with the user name of *admin* and the password of *12345*. The *Administrator* has the authority to add, delete or configure the user parameters. Up to 31 users can be added.

### 14.4.1 Add a New User

To add a new user click Menu > Settings > User to enter the User Settings menu, shown in Figure 14.4.

- 1) Select the *Add* button to enter the **Add User** menu, shown in Figure 14.5.
- 2) Enter information for new user, including **User Name**, **Password**, **Level** and **User's MAC**.
- 3) The **Level** is the user level and is separated into two tiers.
  - **Operator:** By default, the Operator user level has the authority to configure two-way audio in network settings and all parameters in channel settings.
  - **Guest:** By default, the Guest user can not configure network settings, but can configure the local playback as well as the remote playing in channel settings.
- 4) If **User's MAC** is configured and enabled, the user may only access the DVR from that particular MAC address.
- 5) Select the *Permission* button to enter the Permission Settings menu, shown in Figure 14.6.
- 6) Configure permission for local settings under **Local Permission** tab. The local settings include:
  - **Local Log Search:** Search and view logs of DVR.
  - **Local Configuration:** Configure and restore parameters to factory defaults. Introduce settings to or export settings from DVR.
  - **Local Advanced Operation:** HDD management (including the initialization and changing the properties of a disk). Ability to update system firmware as well as to stop the relay output
  - **Local Shutdown/Reboot:** Shutdown or reboot the DVR.

**Note:** If you forget the password to your DVR, contact your supplier with the serial number of your DVR to obtain a secure code to reset your DVR.



Figure 14.5. Add User Menu



Figure 14.6. Permission Settings Menu



- 7) Click on **Network Permission** tab to configure network permission settings, as shown in Figure 14.7. The network settings include:
- **Remote Log Search:** Remotely view logs that are saved on the DVR.
  - **Remote Configuration:** Remotely configure parameters, restore parameters to factory defaults and import settings to as well as export settings from DVR.
  - **Remote Serial Port Control:** Configure settings for RS232 and RS485 ports.
  - **Remote Video Output Control:** Configure settings for video output.
  - **Two-way Audio:** Ability to use two-way radio between the remote client and the DVR.
  - **Remote Alarm Control:** Remote alert or control the relay output of the DVR. Alarm and exception settings must be configured properly to upload to host.
  - **Remote Advanced Operation:** Remotely manage hard disk drives (initializing and setting properties for HDDs). Ability to remote update system firmware and stop of the relay output
  - **Remote Shutdown/Reboot:** Remotely shutdown or reboot the DVR.
- 8) Click on the **Channel Permission** tab to configure channel permission, as shown in Figure 14.8. The channel settings include:
- **Remote Live View:** Select and view live video over the network.
  - **Local Manual Record:** Locally start and stop manual recording on any of the channels.
  - **Remote Record Starting:** Remotely start and stop manual recording on any of the channels.
  - **Local Playback:** Locally play recorded files that are on the DVR.
  - **Remote Playback:** Remotely play and download recorded files that are on the DVR.
  - **Local PTZ Control:** Locally control PTZ cameras.
  - **Remote PTZ Control:** Remotely control PTZ cameras.
  - **Local Video Export:** Locally backup recorded files from any of the channels.
- 9) Click the **OK** button to save and exit menu.



Figure 14.7. Network Permission Settings Menu

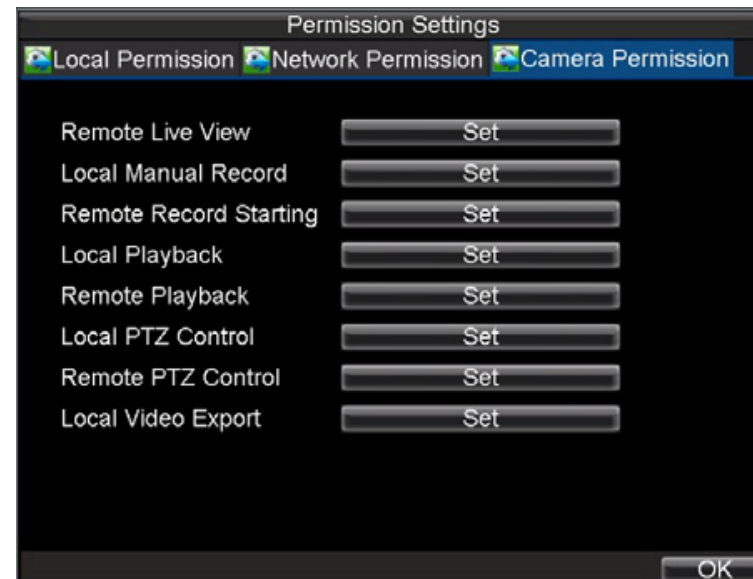


Figure 14.8. Camera Permission Settings Menu

### 14.4.2 Deleting a User

To delete a user from the DVR:

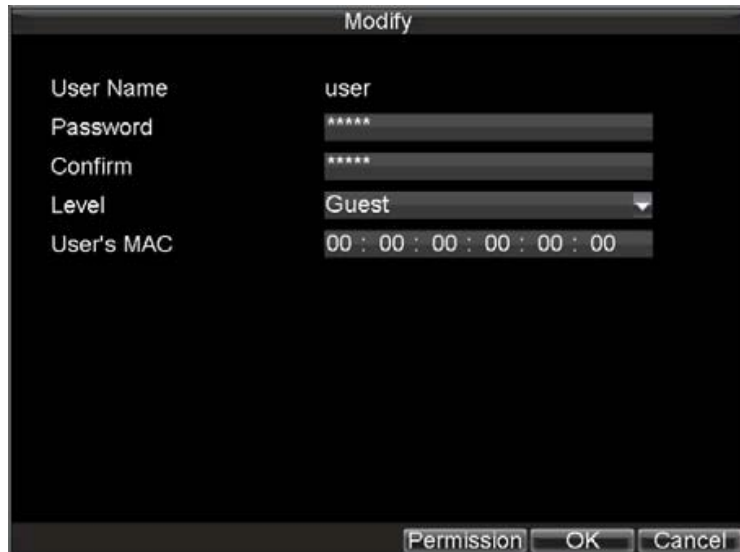
- 1) Click Menu > Settings > User to enter the User Settings menu.
- 2) Select user to delete.
- 3) Click the *Delete* button to delete user.
- 4) Click the *OK* button to exit menu.

**Note:** No deletion is allowed for the *Administrator*.

### 14.4.3 Modifying a User

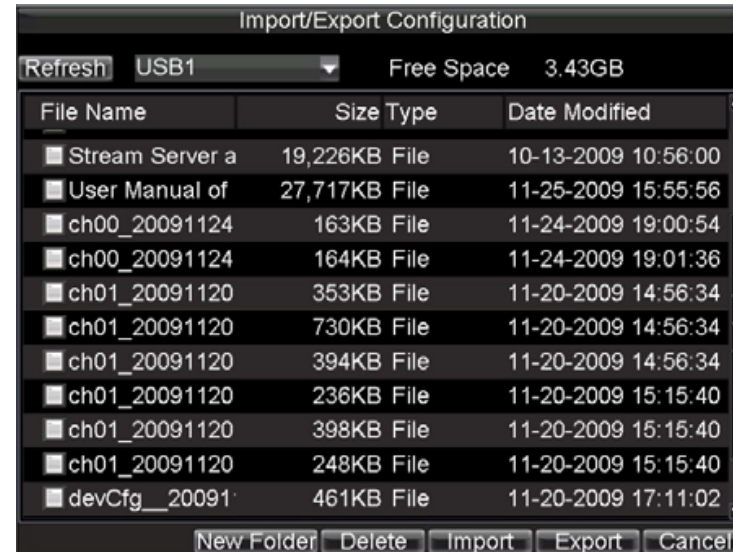
To modify a user:

- 1) Click Menu > Settings > User to enter the User Settings menu.
- 2) Select user to modify.
- 3) Click the *Modify* button to enter the Modify menu, shown in Figure 14.9.
- 4) Edit user information.
- 5) To modify user permissions, click on the privileges button. Permissions settings are defined in the *Adding a New User* section described above.
- 6) Click the *OK* button to exit menu.



The 'Modify' window displays fields for editing a user. The 'User Name' field contains 'user'. The 'Password' and 'Confirm' fields are masked with asterisks. The 'Level' dropdown menu is set to 'Guest'. The 'User's MAC' field shows '00 : 00 : 00 : 00 : 00 : 00'. At the bottom, there are buttons for 'Permission', 'OK', and 'Cancel'.

Figure 14.9.



The 'Import/Export Configuration' menu shows a list of files on a USB drive. The 'Refresh' button and a dropdown menu showing 'USB1' are at the top. The 'Free Space' is 3.43GB. The table below lists files with their names, sizes, types, and modification dates. At the bottom, there are buttons for 'New Folder', 'Delete', 'Import', 'Export', and 'Cancel'.

File Name	Size	Type	Date Modified
Stream Server a	19,226KB	File	10-13-2009 10:56:00
User Manual of	27,717KB	File	11-25-2009 15:55:56
ch00_20091124	163KB	File	11-24-2009 19:00:54
ch00_20091124	164KB	File	11-24-2009 19:01:36
ch01_20091120	353KB	File	11-20-2009 14:56:34
ch01_20091120	730KB	File	11-20-2009 14:56:34
ch01_20091120	394KB	File	11-20-2009 14:56:34
ch01_20091120	236KB	File	11-20-2009 15:15:40
ch01_20091120	398KB	File	11-20-2009 15:15:40
ch01_20091120	248KB	File	11-20-2009 15:15:40
devCfg_200911	461KB	File	11-20-2009 17:11:02

Figure 14.10. Import/Export Configuration Menu

## 14.5 Manage System

### 14.5.1 Importing & Exporting Configuration

Configuration information from your DVR can be exported to a USB device and imported into another DVR. This will allow you to efficiently setup the same configuration on numerous DVRs. To import or export DVR configuration:

- 1) Click Menu > Maintenance > Configuration to enter the Import/Export Configuration menu, shown in Figure 14.10.
- 2) Click *Export* to export a configuration file to USB device. USB device must be connected at this point to the DVR.
- 3) To import a configuration file, select the file from the USB device and click the Import button. After the import process is completed, the system will automatically reboot the DVR.
- 4) Click *Cancel* to exit the current menu.

### 14.5.2 Updating System Firmware

The firmware on your DVR can be updated by using two methods. These methods include updating via an USB device or over the network via a FTP server. To update via an USB device:

- 1) Connect USB device to DVR. The firmware file must be located in the root directory of your USB device.
- 2) Click Menu > Maintenance > Upgrade to enter the Firmware Update menu, shown in Figure 14.11.
- 3) Select the **Local Upgrade** tab.

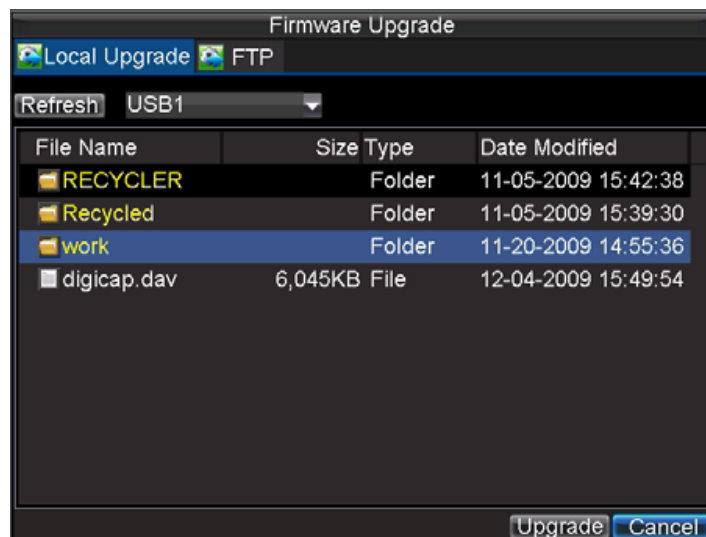


Figure 14.11. Firmware Update Menu

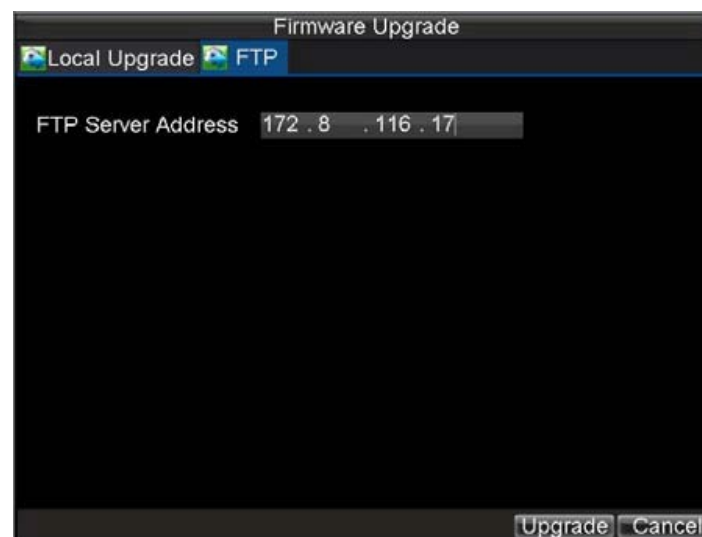


Figure 12. FTP Firmware Update

- 4) Select the firmware on the USB device.
- 5) Select Upgrade to begin the update process.
- 6) After the system firmware has been updated, reboot the DVR.

To update via a FTP server:

- 1) Configure PC (running FTP server) and DVR to be in the same Local Area Network. Run the third-party TFTP software on the PC and copy the firmware into the root directory of TFTP.
- 2) Enter the Firmware Update menu by clicking Menu > Maintenance > Upgrade.
- 3) Select the **FTP** tab, shown in Figure 14.12.
- 4) Input the FTP server address.
- 5) Select Upgrade to begin update process.
- 6) After the system firmware has been update, reboot the DVR.

**Note:** If the DVR fails to update, please contact your system supplier for further assistance.

### 14.5.3 Restore Default Settings

To restore default factory settings to your DVR:

- 1) Click Menu > Maintenance > Default to enter the Default Settings menu interface.
- 2) Select OK to restore factory defaults.

**Note:** Network information such as IP address, subnet mask and gateway will not be restored.

### 14.5.4 View System Information

To view system information:

- 1) Click Menu > Maintenance > Information to enter the Information menu, shown in Figure 14.13.
- 2) Select *OK* to exit to the previous screen.

### 14.5.5 View System Log

Many events of your DVR are logged into the system log. To access the system logs and search for these events:

- 1) Click Menu > Maintenance > Log Search to enter the Log Search menu, shown in Figure 14.14.
- 2) Set search parameters.
- 3) Click the *Search* button to start search. If logs matching the search conditions are found, it will be displayed in a list of search results as shown in Figure 14.15.
- 4) To view more detailed information about a particular log entry, select the log and click the *Details* button.
- 5) If applicable, you may also view the associated video to the selected log entry by clicking the *Play* button.

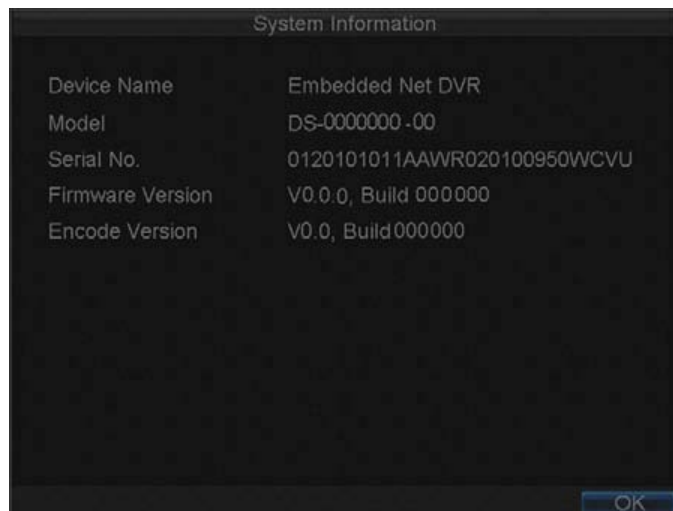


Figure 14.13. System Information

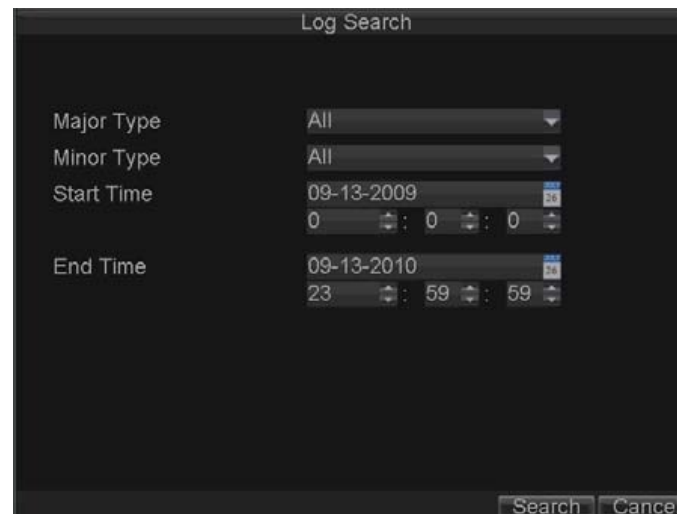


Figure 14.14. Log Search Menu

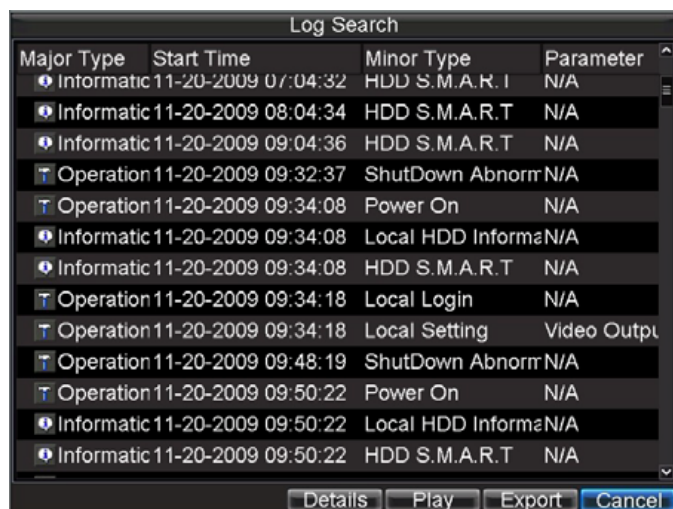


Figure 14.15. Log Search Results

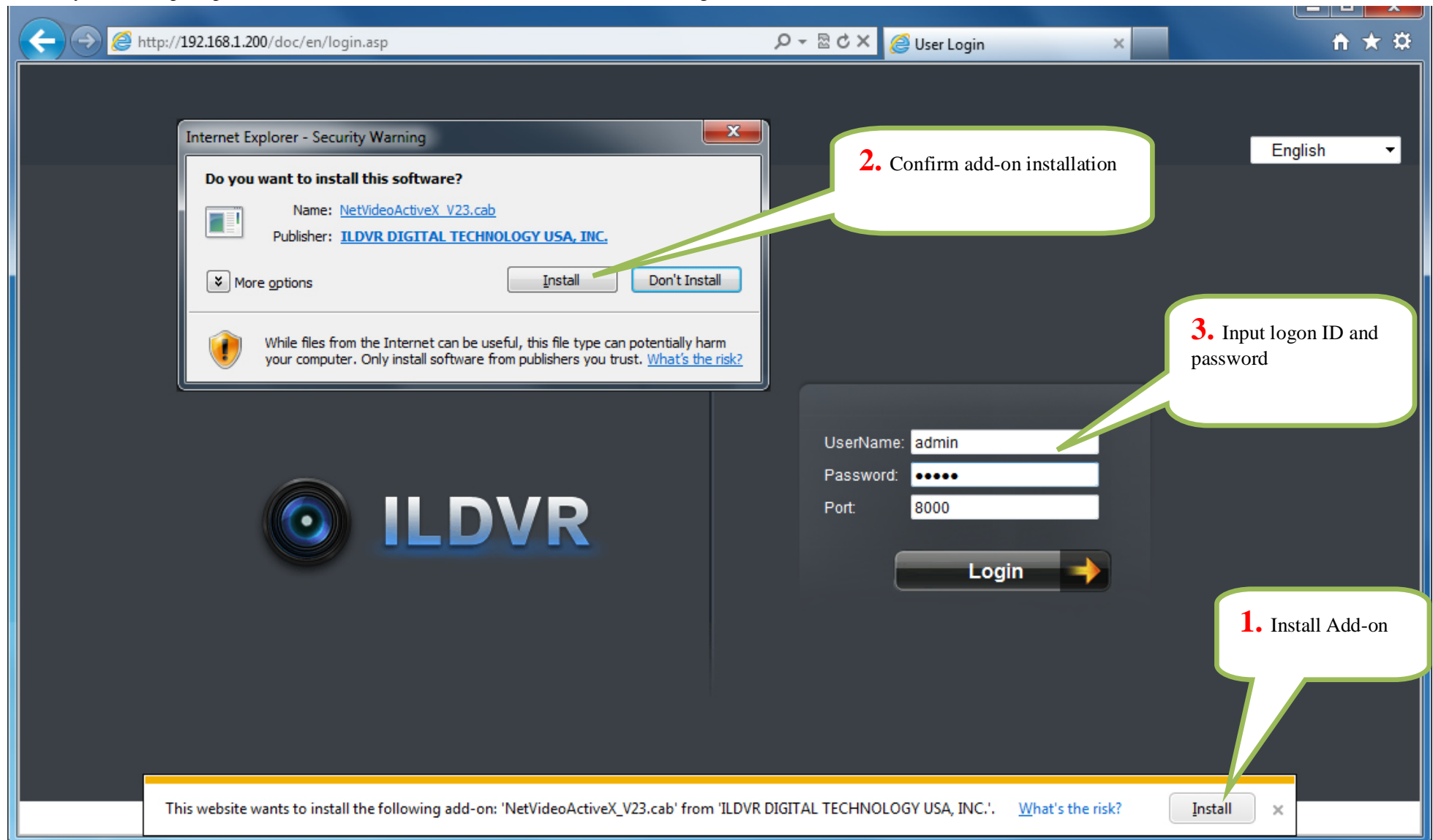


Figure 14.16. Log Search Export Menu

- 6) Log files can also be exported onto a USB device. To export a log file, connect a USB device to the DVR, select the log file to export and click the *Export* button to enter the Log Search Export menu, shown below in Figure 14.16. Click the *Export* button to export log onto USB device. The exported file will be named according to the time it was exported (e.g., 20120218143958logBack.txt).
- 7) Click *Cancel* to exit the current menu.

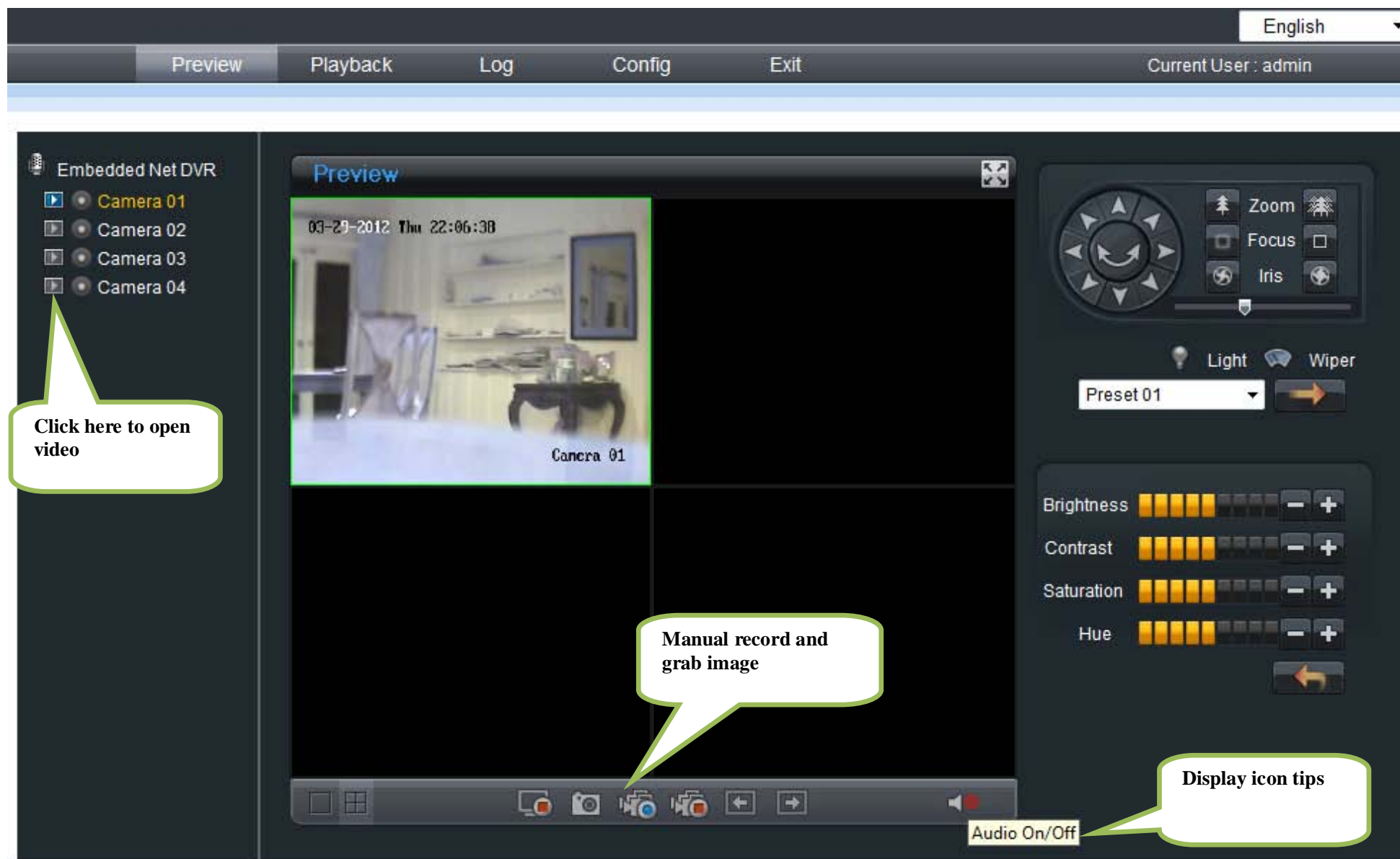
## 15 IE Web Client

NetDVR has built in web server. You can use Internet Explorer directly login to IP camera by input camera's IP address or domain name. At first time connecting to IP camera, you will be prompted to install ActiveX Control (Add-on). Refer to following illustration.





In live preview interface, pause your mouse cursor on the icons will display tips. You can click the record button to start video recording or click capture button to grab a picture, the video and image will be saved in local computer disk drive. Please enter “Config” interface to check or modify the file saving path.



English ▾


Preview
**Playback**
Log
Config
Exit
Current User : admin

Embedded Net DVR

- Camera 01**
- Camera 02
- Camera 03
- Camera 04

Playback

03-29-2012 Thu 22:57:03
Camera 01



⏮
⏪
⏩
⏭

2012-03-29 22:57:03

17:00

18:00

19:00

20:00

21:00

22:00

23:00

00:00

01:00

02:00

03:00

04:00

05:00

Camera 01

■ Command 
 ■ >Schedule 
 ■ Recording 
 ■ Alarm Recording 
 ■ Manual Recording

Channel No. : 1

**2012-03-29 22:57:03**

Current Status: Normal

⏮
2012/03/29
⏭

SUN	MON	TUE	WED	THU	FRI	SAT
26	27	28	29	01	02	03
04	05	06	07	08	09	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31
01	02	03	04	05	06	07

⏮
🔍 Search

Down
➔

Download files

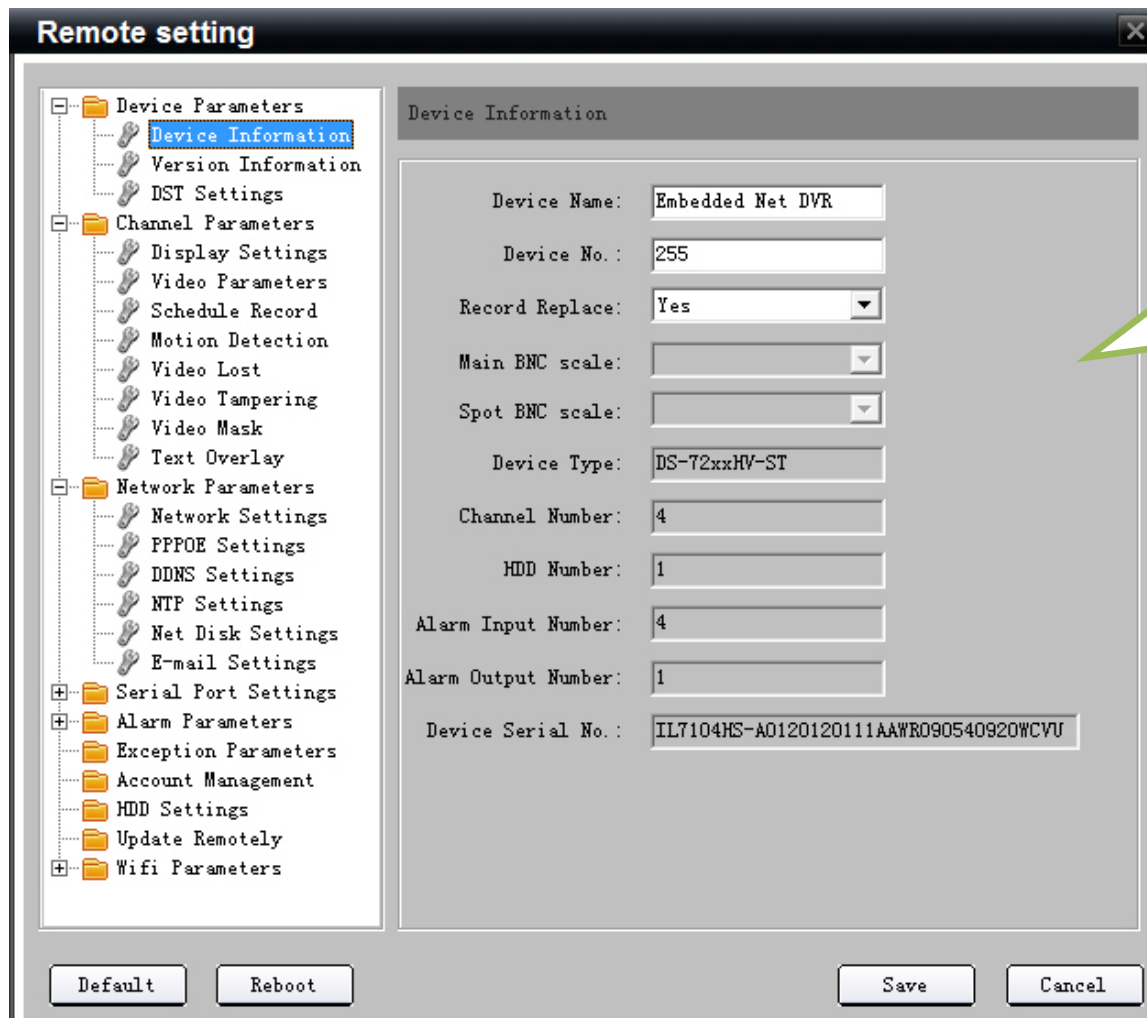
Drag & drop time bar for fast search

Vertical yellow line is start play time

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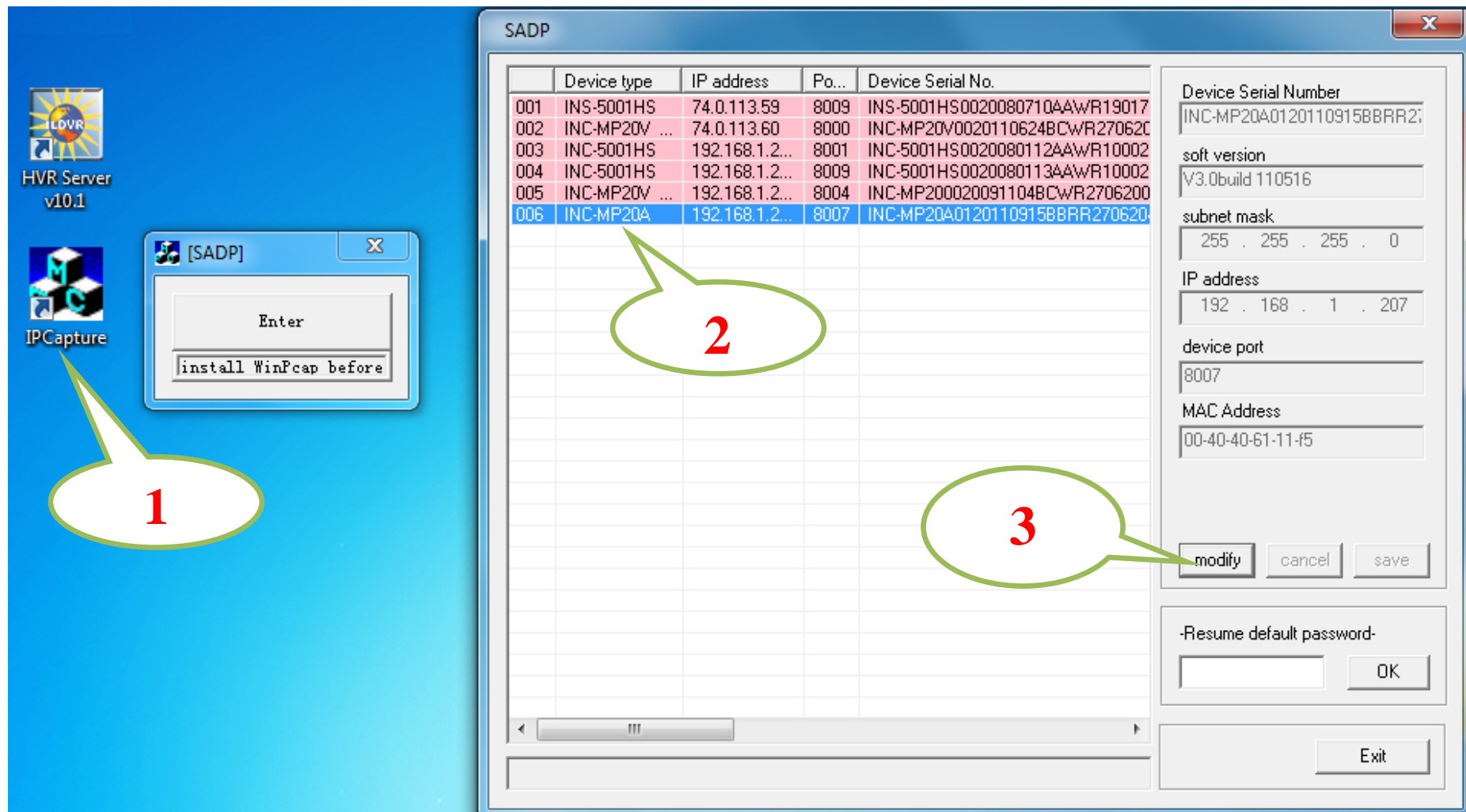




Remote configuration interface, all parameters and settings are exactly the same as local setup, please refer to above sections.

## 16 Search and Modify IP Address

Before connecting NetDVR to network, please make sure whether the default IP address of the camera fit your local network environment. You can search and modify the IP address locally but we offer a convenient utility “IPCapture” to search and modify the IP address of IP device. IPCapture is an independent utility program. You can find it in the software CD or download it from ILDVR web site. Please connect the IP camera and the PC running IPCapture program in same network segment.



#### For your attention:

IP capture can be used to find the IP address of multiple products includes NetDVR, IP camera and IP video server, all IP devices listed in IPcapture are grouped in the device type of INC-MP&D1 Series. Refer to next section.

## 17 Connect to HVR Server and Live Center

In some business surveillance system the record data security is very sensitive and important. Data redundancy is necessary in this kind of surveillance project. But most of DVRs in the market don't offer any data redundancy policy. If the HDD crash, all recording video would be lost. How to build up a cost effective backup system is not only the customer's concern but also the installer's interest. ILDVR IP-CCTV solution offers multiple software kits to help our customers to build their data backup system. Here takes the HVR system for example.

In the main interface of HVR Server, click Tools icon to expand the Tool Panel, click Add/del IP camera button to bring up "IP Camera Device List" interface. In Live Center the operation is similar but the first step is to enter Local Setup interface.

**3**  
Select INC-MP&D1 series for Device Type.

**2**

**1**

**Add/Modify IP Device**

Server name: INC-MP20  
 Device type: INC-MP&D1 Series  
 IP address: 192.168.1.204  
 Stream type: Main-Stream  
 TCP Port: 8004  
 DNS support: No  
 Login ID: admin  
 Password: \*\*\*\*\*  
 DNS IP address:   
 DNS TCP Port: 7071

**IP Camera Device List**

Server Name	IP Address	Port	Camera NO.	Connect Status	Registered?
INC-TE288	192.168.1.201	8001	8	connect ok	Yes
INC-MP20	192.168.1.204	8004	9	connect fail	Yes
INC-MP13CD	192.168.1.207	8007	10	connect ok	Yes
INC-TE288NI	192.168.1.209	8009	11	connect ok	Yes
OutdoorPTZ	74.0.113.59	8009	12	connect ok	Yes
MP20V	74.0.113.60	8000	13	connect ok	Yes
inc-m2010	192.168.1.210	5000	14	connect ok	Yes
inc-md30	74.0.113.58	37777	15	connect ok	Yes

Decode card working mode: Disable  
 Preview auto switch main/sub stream: Enable

Add Cam Change Del. Cam Save Cancel

#### For your attention:

All NetDVRs (IP device) must be registered in the software then it could be recorded. If you couldn't record video, please update the license file IPEncrypt.dat for HVR Server and Live Center software. You can find the update license file in software CD or download from ILDVR web site

## 18 Remote Management from HVR Server and Live Center

The following operations need admin user rights to login IP camera. Please refer to above step. Right click IP Camera window to pop up right-click menu. Choose “IPcam\_NetDVR Setup” to bring up “IP Camera Setup” interface. In Live Center, entrance is “Remote Setup” then choose Server alias

The IP Device Setup interface is divided into several sections. At the top, there are tabs for Device, Channel, Serial, Alarm, PTZ, and User, with the title 'IP Device Setup' on the right. The main area contains the following fields:

Device Name	Embedded Net	HDD Num	1	Alarm Out Num	1
Channel Num	4	Cycle Record	YES	Remote-Control ID	255
Alarm In Num	4	Device Type	DVR		
Serial No.	IL7104HS-A0120120111AAWR090540920WCVU				
Software Version	V1.2.2 build 111230		Hardware Version	0xc300	
DSP Version	V5.0 build 111015		QMB Version	V8	
Net Interface	10M/100M/1000M Adaptive		Resolver IP		
DHCP	<input type="checkbox"/>		Port	8000	
Device IP	192.168.1.200		HTTP Port	80	
Subnet Mask	255.255.255.0		Multicast IP	0.0.0.0	
Gateway	0.0.0.0		Alarm Host IP	0.0.0.0	
First DNS IP	0.0.0.0		Alarm Host Port	0	
Second DNS IP	0.0.0.0		MTU	1500	
MAC Addr.	00:40:35:a5:46:48				

At the bottom right, there are buttons for 'Wifi' and 'Save'. At the bottom of the window, there are buttons for 'Refresh', 'Manage...', and 'Exit'.

In “Server” page, you can change IP address, port number and reset the password of admin ID etc. The device serial number is necessary for register license.

In “Channel” page you can modify video parameters and OSD information, setup motion detect alarm and mask private areas, etc.

**IP Device Setup**

Device Channel Serial Alarm PTZ User

Channel: Camera1 Channel Name: Camera 01

**Compress Para. Setup**

Stream Type: Main Stream

Image: Good Video Type: Audio+Video Resolution: 4CIF Bit Rate: VBR

Frame Rate: 12 Max Bit: 512K 0 kbps I Frame: 48 BP Frame: S-P-F

Compression: H264 Audio Type: OggVorbis

**Record Para.**

☒ Timer Record **Setup** Prerecord Time: 5 s Record Delay: 5 s

**Picture Parameter**

☐ Hide Area **Setup** ☒ Motion Detect **Setup**

☐ Video Lost **Setup**

☒ Show OSD X: 0 ☒ Show Week OSD: Not Clarity-Not Glitter

Y: 32 Hour Type: 24 OSD Type: XX-XX-XXXX (MDY)

☒ Channel Name X: 512 Y: 416 **String**

Copy To Channel: All **Copy**

**Save**

**Refresh** **Manage...** **Exit**

Set audio

Enter Motion Detect setup interface, see section 19.2

## 19 Network Redundancy Record

### 19.1 Continuous Record Setup

Continuous Record means always record the video, the operation is simple. You get video connection, get video record. You just enter Camera Setup page→ Group Setup, choose camera group and cameras, click the icon “Continuous Record” then slide the mouse to set time table. The operation in Live Center is similar.


The screenshot shows the 'Group Setup' interface. At the top, there is a 'Select Camera Group' dropdown menu set to 'Group01' and a 'Record Sub-stream' dropdown menu set to 'Disable'. Below these, there are two tabs for 'Group Camera', with '1' and '2' visible. Further down, there are three dropdown menus: 'Pre-alarm Record' set to '5 Sec', 'Post-alarm Record' set to '5 Sec', and 'Stream Type' set to 'Video'. Below these are six record mode icons: 'Continuous Record' (red square), 'Motion Record' (blue square), 'Alarm in Record' (orange square), 'Motion or Alarm in Rec' (green square), 'Continuous & Motion Rec' (red and blue square), and 'No Record' (grey square). At the bottom, there is a 7x24 grid for setting the record schedule. The rows are labeled with days of the week: SUN, MON, TUE, WED, THU, FRI, and SAT. The columns are numbered 0 to 23. The 'SUN' row is highlighted with a red border, and the entire grid is filled with a red background, indicating that recording is set to be continuous for all days and times.

### 19.2 Motion Detect Alarm Record Setup

Motion Detect Record is a little bit complicated than Continuous Record because HVR system need additional signal to analyze the video stream type. So you must configure 2 places. One place is Motion Record setup in HVR system “Camera Setup” page, similar to Continuous Record setup. Another place is Motion page as below,

For your attention, the key item “Upload to center” must be checked on, otherwise your settings only apply to local SD card motion record.

**Motion Detect**



**Invoke Record Channel**

- ☒ Camera1
- ☐ Camera2
- ☐ Camera3
- ☐ Camera4

**Alarm method**

- ☒ Monitor Alarm
- ☒ Audio Alarm
- ☒ Upload to Center
- ☐ Alarm Out1

☒ Show Motion Detect   ☐ Set Motion Detect

Sensitive

Note: Press "Ctrl" key and drag the mouse to select the area

**Schedule Time**

Day

Time 1	<input type="text" value="0"/>	<input type="text" value="0"/>	—	<input type="text" value="24"/>	<input type="text" value="0"/>	Time 5	<input type="text" value="0"/>	<input type="text" value="0"/>	—	<input type="text" value="0"/>	<input type="text" value="0"/>
Time 2	<input type="text" value="0"/>	<input type="text" value="0"/>	—	<input type="text" value="0"/>	<input type="text" value="0"/>	Time 6	<input type="text" value="0"/>	<input type="text" value="0"/>	—	<input type="text" value="0"/>	<input type="text" value="0"/>
Time 3	<input type="text" value="0"/>	<input type="text" value="0"/>	—	<input type="text" value="0"/>	<input type="text" value="0"/>	Time 7	<input type="text" value="0"/>	<input type="text" value="0"/>	—	<input type="text" value="0"/>	<input type="text" value="0"/>
Time 4	<input type="text" value="0"/>	<input type="text" value="0"/>	—	<input type="text" value="0"/>	<input type="text" value="0"/>	Time 8	<input type="text" value="0"/>	<input type="text" value="0"/>	—	<input type="text" value="0"/>	<input type="text" value="0"/>

Copy To

**Important:**  
Upload alarm signal to network

### 19.3 Sensor Trigger Alarm Record Setup

Sensor Record is a kind of external alarm-in trigger record. It is more complicated than Motion Record because motion detect signal is embedded in video stream, but sensor alarm signal is a kind of external signal. You must configure 3 places to execute Sensor Record. The first place is Alarm in Record setup in HVR system “Camera Setup” page, similar to Motion Record setup.

The second place is Alarm Check time table in HVR system “Alarm in & Relay out” page as below picture

**Group Setup**

Select Group: Group01 NC/NO Type: N/C Alarm Write to Log: Disable

Post-alarm Link Status: ☒ Stop ☐ Stay ☐ Delay 10 sec.

Select Alarm-in Port: 1

Alarm Link Camera: 1

Alarm Link Relay out Port: 1

Alarm Check: ☒ Alarm Check ☐ No Check Email Alarm: Disable SMS Alarm: Disable

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
SUN																								
MON																								
TUE																								
WED																								
THU																								
FRI																								
SAT																								

The third place is Sensor page as below.

For your attention, the key item “Upload to center” must be checked on, otherwise your settings only apply to local SD card sensor record.



Device
Channel
Serial
**Alarm**
PTZ
User
IP Device Setup

### Alarm In Setup

Alarm In

AlarmIn1

IP Address

Local

IP Input Chan.

0

Name

SENSOR1

Alarm In Type

Normal Close

☒ Alarm In Handle

Handle

PTZ

OK

Copy To

All AlarmIn

Copy

### Alarm Out Setup

Alarm Out

AlarmOut1

IP Address

Local

IP Out Chan.

0

Delay

5 s

Name

alm1

Day

Monday

Time 1

0

0

—

24

0

Time 2

0

0

—

0

0

Time 3

0

0

—

0

0

Time 4

0

0

—

0

0

Time 5

0

0

—

0

0

Time 6

0

0

—

0

0

Time 7

0

0

—

0

0

Time 8

0

0

—

0

0

Copy To

EveryDay

Copy

OK

Copy Alarm Out

All AlarmOut

Copy

Save

Refresh

Manage...

Exit

Click Handle button to enter Sensor Alarm setup interface, see next page.

Alarm Input Handle

Invoke Record Chan.

- ☒ Camera1
- ☒ Camera2
- ☒ Camera3
- ☒ Camera4

Alarm handle method

- ☒ Monitor
- ☒ Alarm Out
- ☒ Voice
- ☒ Upload to Center
- ☒ AlarmOut1

Schedule Time

Day Monday

Time 1	0	0	—	24	0	Time 5	0	0	—	0	0
Time 2	0	0	—	0	0	Time 6	0	0	—	0	0
Time 3	0	0	—	0	0	Time 7	0	0	—	0	0
Time 4	0	0	—	0	0	Time 8	0	0	—	0	0

Copy To EveryDay Copy OK

OK Exit

**Important:**  
Upload alarm signal to network

**Check sensor (Alarm in) time table**

## 20 Remote PTZ Operation

If you have analog speed dome connect to NetDVR, please setup preset position, auto-spot plan and preset tour in this page. Not like analog PTZ which saves preset in camera system, the IP PTZ saves preset in local computer, so if you use another PC to control same IP PTZ, you should do same setting again in that PC. Comparing analog

PTZ and IP PTZ, the setup procedure is very different, but the operations of call preset are exactly same.

The screenshot shows the 'IP Device Setup' window with the 'PTZ' tab selected. The interface includes a top navigation bar with 'Server', 'Channel', 'PTZ', 'Sensor', and 'Motion' tabs. Below this, there are fields for 'Camera NO.' (set to 1), 'Copy to' (empty), 'Copy' button, 'Baudrate' (2400), 'PTZ Protocol' (PELCO\_D), and 'PTZ Address' (1). A live video feed on the left shows a car in a parking lot with 'NO.003' and 'INS-350B' text. Below the video are PTZ controls: 'PTZ Speed' (128), 'Focus+', 'Focus-', 'U', 'Iris+', 'Iris-', 'L', 'R', 'Zoom+', 'Zoom-', and 'D'. The 'Preset Setup' dialog is open, showing a table of presets and fields for 'Name' (street), 'Preset' (5), 'Add', 'Del', 'Call', 'Mode' (Call Preset), 'No PTZ Action' (60), 'Sec. Back', and 'Home Position' (park3). Buttons for 'Preset', 'Schedule', and 'Tour' are at the bottom of the dialog. The main window has 'Time Adjust', 'IE Setup', 'Save', and 'Exit' buttons at the bottom.

1. Choose preset number

2. Give a name to the position ( name preset number)

3. Press direction button and zoom/focus/iris to move the camera to aim position

4. Set home position for auto going back after setting time

5. Click Add button to save preset

Preset Name	NO.	Mode
park1	1	Call
park2	2	Call
park3	3	Call
Entrance	4	Call
street	5	Call

## Auto Plan:

Auto Plan means HVR software automatically call the preset position by a scheduled time table. When the system time reach, the IP speed dome will auto move to preset position. You can save up to 64 moments and one preset could be used multiple times.

## Tour Group:

Tour Group means you can put different preset position in a sequential group, each preset position could be defined a staying time (stay there without moving). When you execute a Tour, the IP camera will continuously move according to the sequence and time table saved in the group. You can save up to 8 groups.

In main interface of HVR Server or Live Center, click “Preset Operation” button to bring up preset menu then choose call preset or tour preset.

The image displays the HVR software interface for preset management and PTZ control. It includes two configuration windows, a PTZ control panel, and a live video feed.

**Auto Plan Window:**

- Preset: 5 (dropdown), Add, Del
- Call Time: Friday (dropdown), 10 (dropdown), H 0 (dropdown), M
- Copy To: Monday (dropdown), Copy
- Table:

Date	Time	Preset
Monday	08:15	1
Tuesday	08:15	2
Wednesday	09:30	3
Thursday	09:00	4
Friday	08:00	2
Friday	10:00	5

**Tour Setup Window:**

- Tour Group: TourGroup1 (dropdown)
- Preset Name: street (dropdown)
- Stay Time: 8 (dropdown), Sec
- Buttons: Add, Del
- Table:

Preset Name	N0.	Time
park1	1	3
park2	2	5
Entrance	4	6
park3	3	4
street	5	8

**PTZ Control Panel:**

- Tools: Color, PTZ, Alarm, Connection
- PTZ Moving Speed: - +
- Buttons: Preset Setup, Preset Call, Preset Tour
- Dropdown: TourGroup1
- Dropdown: park1, park2, park3, Entrance, street
- PTZ Control: 1

A callout bubble points to the **Preset Call** button in the PTZ control panel.

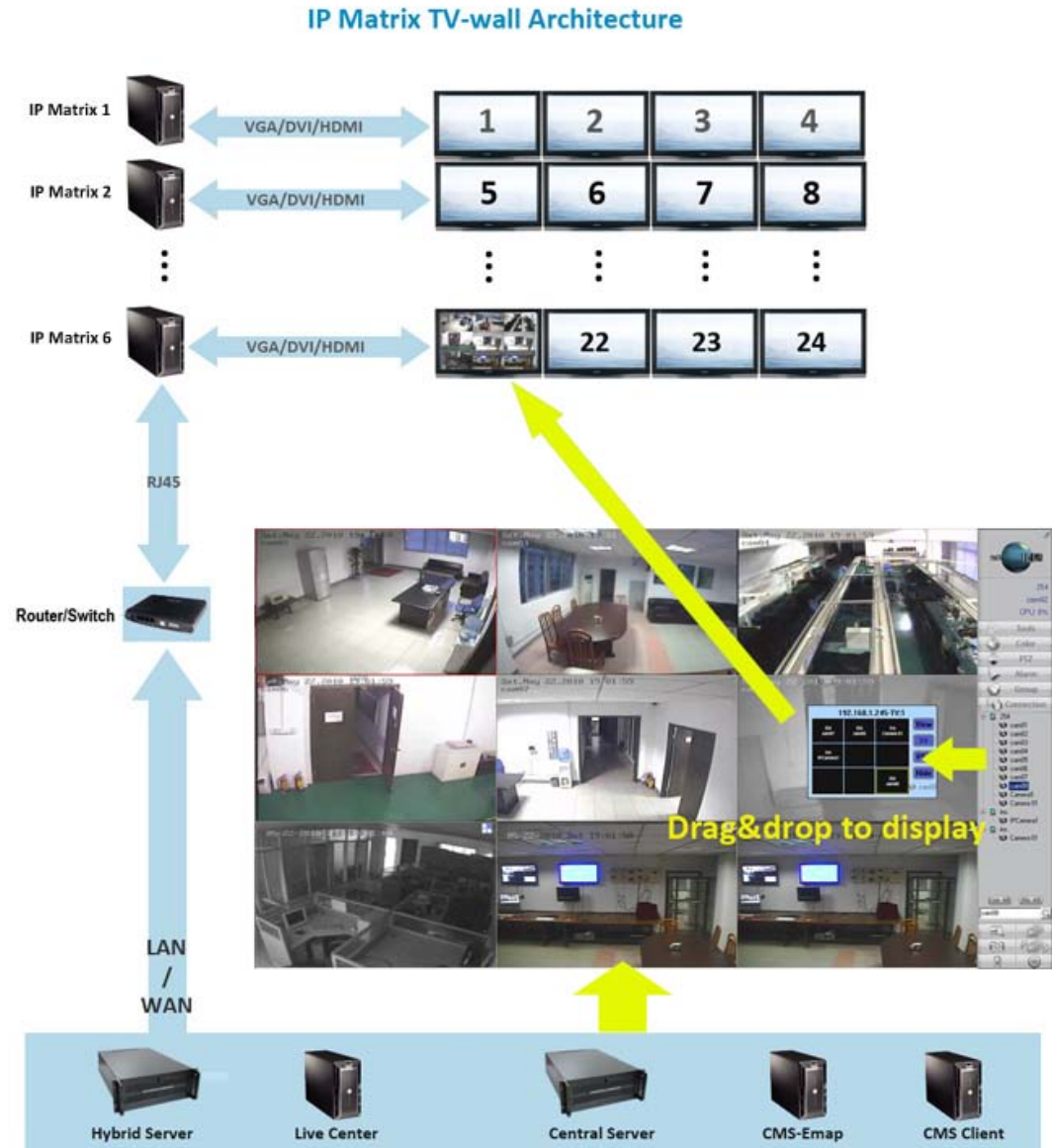
## 21 Display on TV-wall

For large surveillance system the TV-wall is important and necessary. IP camera cannot be integrated into traditional matrix system. ILDVR free software IP Matrix offers innovative TV-wall solution.

All ILDVR software support IP matrix operation, one computer running HVR Server / Live Center / CMS supports up to 6 IP Matrix TV-client.

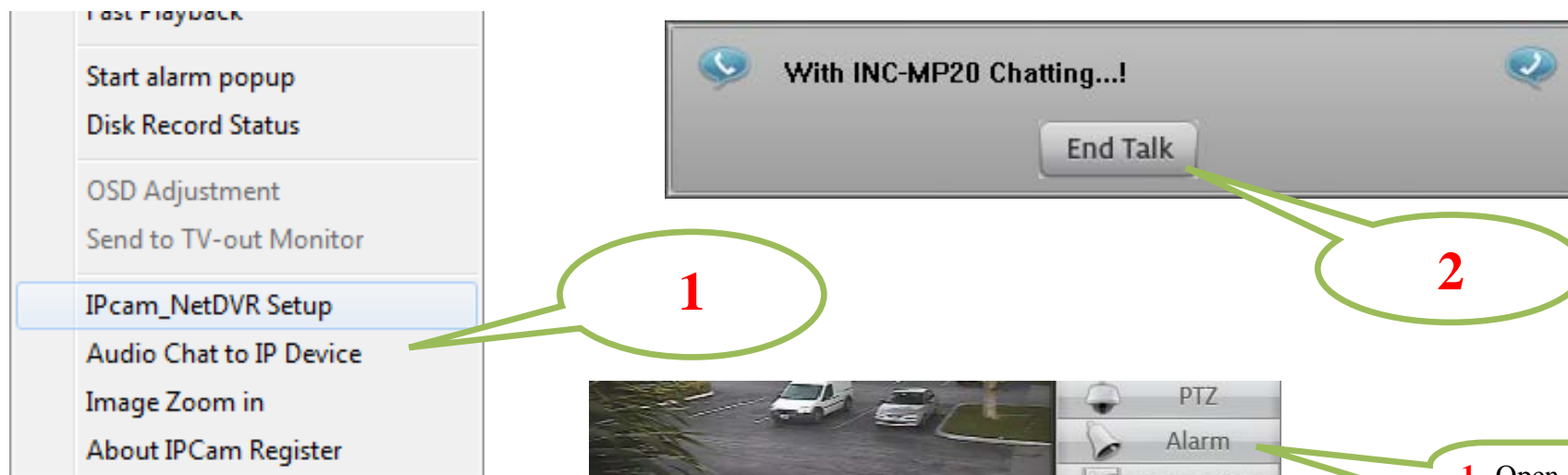
One computer running IP Matrix software supports 4 monitor outputs, each monitor can display up to 16 windows (cameras). That means one IP Matrix can display max. 64 cameras simultaneously

In IP matrix, each video window can be put multiple cameras by switch viewing.



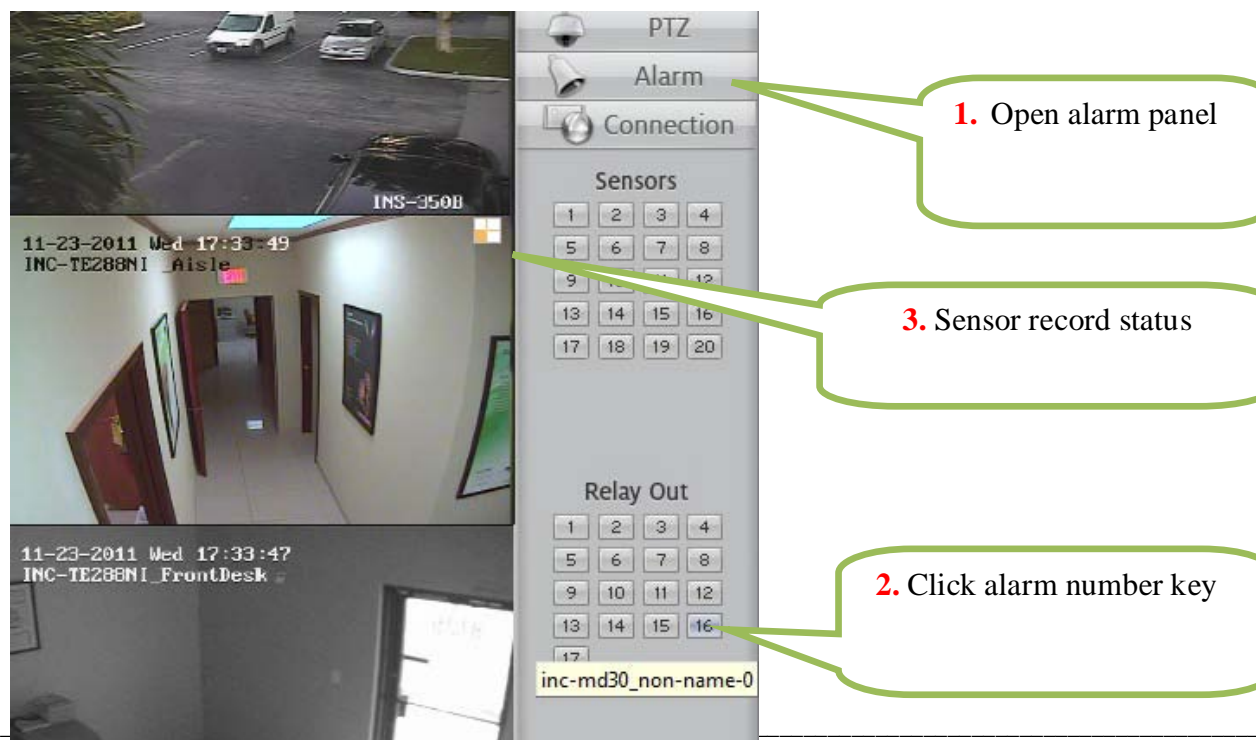
## 22 Audio Chat

From right-click menu choose “Audio Chat to IP Device” to initialize a remote talk between PC to IP camera. This feature needs microphone (audio pickup) and speaker (earphone) to support in both ends. If no audio device can be detected, the “End Talk” dialog will not pop up. That means system will ignore your request.



## 23 Manually Trigger Alarm out

Manual trigger alarm out (relay out) can be widely used to integrate other electrical device such as open a door, turn of light, etc



## Appendix: IKB-2888 Keyboard Operation

### 1. Key Features and Specifications

- **Manage NetDVR:** IKB-2888 keyboard works with all models of IL6000HCS/HDS/HN series of NetDVR. It can manage up to 31 NetDVR. It has the full functions of remote controller and front panel.
- **Control Speed Dome through NetDVR or directly:** Support up to 496 Speed Domes through NetDVR (31 DVRs \*16ch). Support up to 255 Speed Domes (address are among 0~254) if Speed Dome RS485 port connects to keyboard RS485 port directly.
- **Multiple PTZ Protocols:** Built in multiple PTZ protocols. For specific project that existed protocols cannot fulfill the requirement ILDVR offers software upgrade service without changing any hardware.
- **Cascade Connection:** IKB-2888 keyboard supports one master keyboard and 15 slave keyboard cascade connections. Keyboard IDs range from 0 to 15.

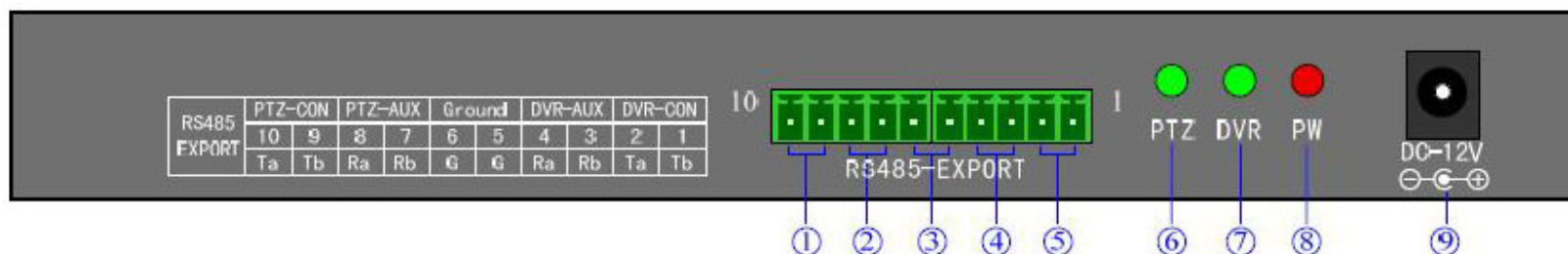
### Specifications

Keyboard model	IKB-2888
Support NetDVR number	31
Support PTZ number	255
Control model	RS-485 half-duplex mode Baud rate: 1200 ~ 19200bps
Communication interface	RS485 port
LCD screen	128mm×64mm
Joystick	3D
Max. cable length	1200m
Power supply	DC12V
Working temperature	-10℃-- +55℃
Working humidity	10%--90%
Size	360mm*200mm*108mm
Weight	3.2KG



## 2. Wire Ports

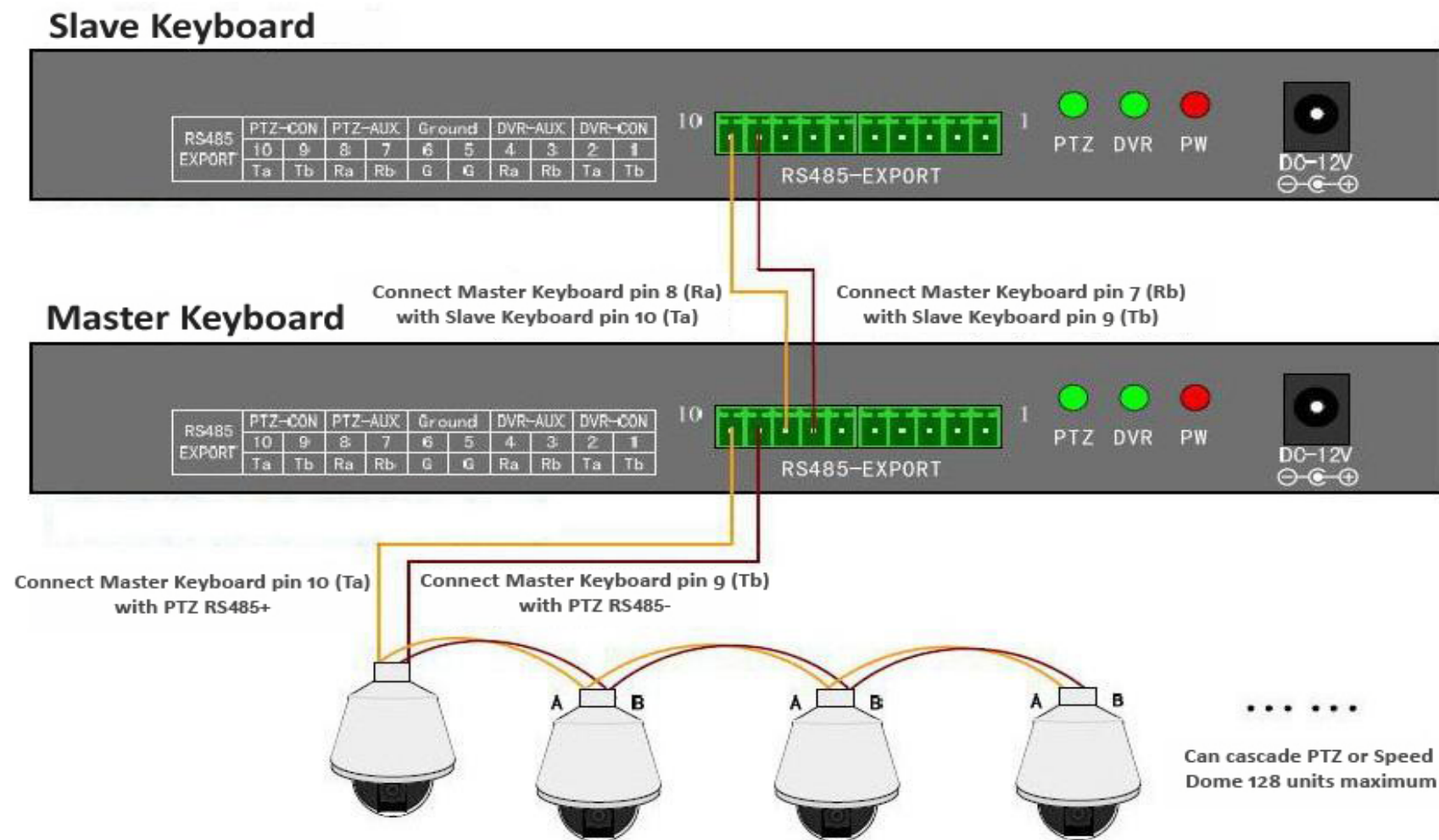
### 2.1 Back panel interface



Item	Name	Descriptions
①	<b>PTZ-CON</b>	Master keyboard RS485 port. Ta=RS485+, Tb=RS485-. When there is only one keyboard in use, it must be used as master keyboard.
②	<b>PTZ-AUX</b>	Slave keyboard connection port. <b>Ra</b> (pin8) connects to slave keyboard <b>Ta</b> (pin10). <b>Rb</b> (pin7) connects to slave keyboard <b>Tb</b> (pin9).
③	<b>Ground</b>	Ground terminal
④	<b>DVR-AUX</b>	Slave keyboard NetDVR connection port. <b>Ra</b> (pin4) connects to <b>Ta</b> (pin2) of slave keyboard. <b>Rb</b> (pin3) connects to <b>Tb</b> (pin1) of slave keyboard.
⑤	<b>DVR-CON</b>	Master keyboard NetDVR connection port. <b>Ta</b> (pin2) connects to <b>D+</b> of NetDVR <b>KB</b> port. <b>Tb</b> (pin1) connects to <b>D-</b> of NetDVR <b>KB</b> port. When there is only one keyboard in use, it must be used as master keyboard.
⑥	<b>PTZ</b>	PTZ work status indicator (Green=on).
⑦	<b>DVR</b>	DVR work status indicator (Green=on).
⑧	<b>PW</b>	Power indicator (Red=on).
⑨	<b>DC-12V</b>	DC 12V power input



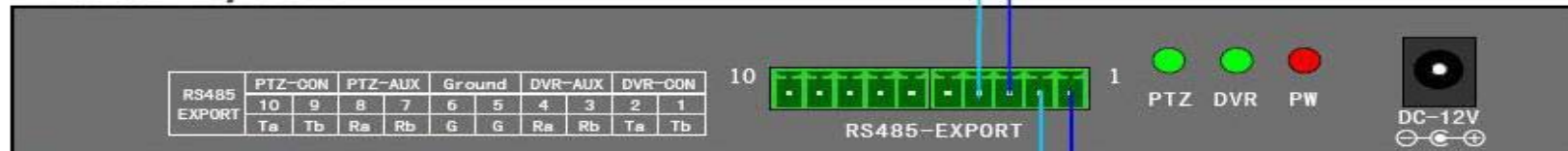
## 2.2 Typical Wiring Diagram



## Slave Keyboard



## Master Keyboard



Connect Master Keyboard pin 4 (Ra) with Slave Keyboard pin 2 (Ta)

Connect Master Keyboard pin 3 (Tb) with Slave Keyboard pin 1 (Tb)

Connect Master Keyboard pin 2 (Ta) with NetDVR KB port pin D+ (or NetDVR RJ45 keyboard port pin 3)

Connect Master Keyboard pin 1 (Tb) with NetDVR KB port pin D- (or NetDVR RJ45 keyboard port pin 4)

NetDVR 1



NetDVR KB port pin D+ (or NetDVR RJ45 keyboard port pin 3)

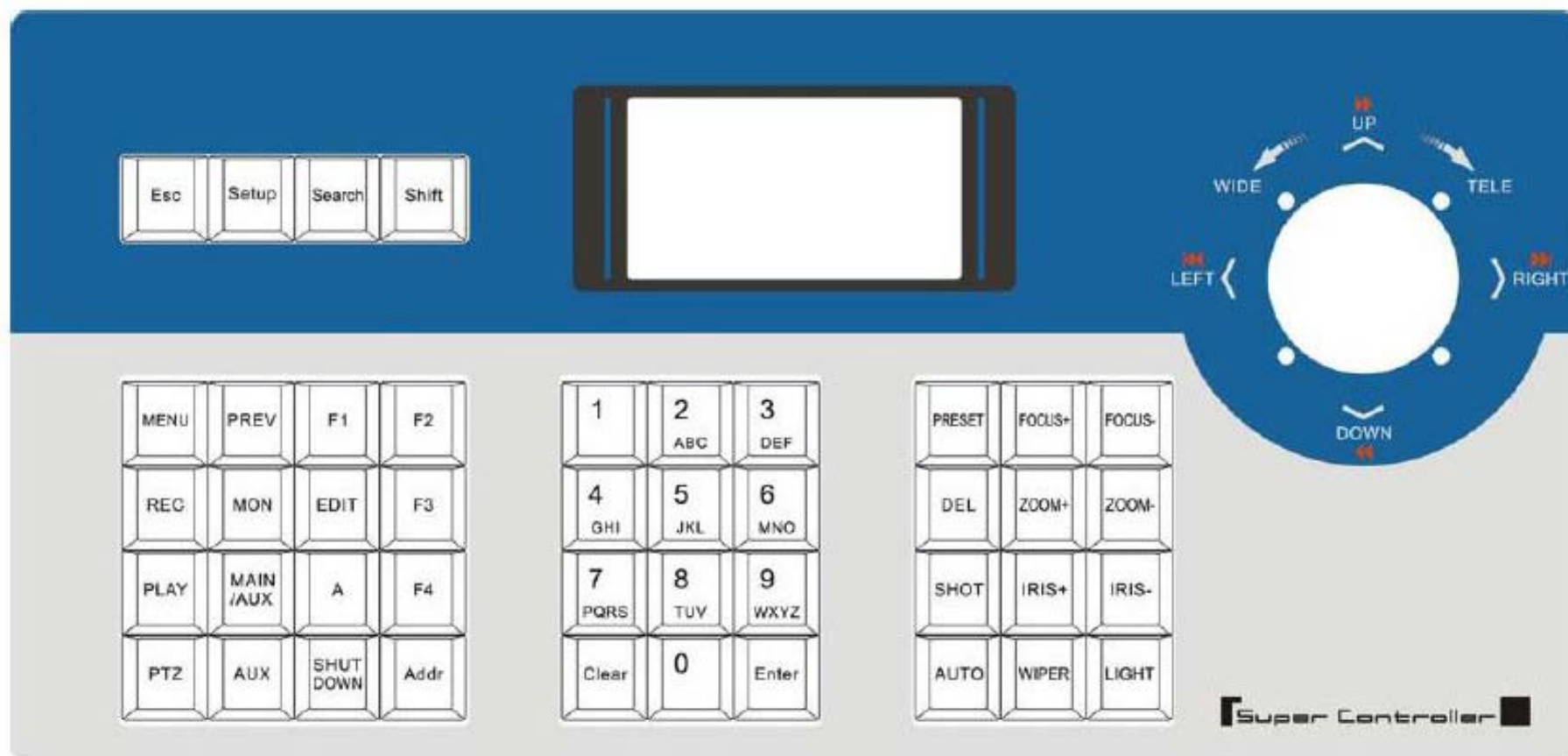
NetDVR KB port pin D- (or NetDVR RJ45 keyboard port pin 4)

NetDVR 2



Can cascade NetDVR 31 units maximum

## 2.3 Front panel description



### LCD screen







All operation steps will be displayed on the LCD screen. The screen will automatically turn to screen save mode in 30 seconds without any input.

## Definitions of keys

Name of key	Description of operation function
ESC	Back to up-level menu
Setup	Hold on 3 seconds to enter keyboard configuration status (default password: 8888)
Search	To view the keyboard system info such as device serial number, model name and PTZ protocol
Shift	Switch the CONTROL mode between NetDVR and speed dome
MENU	Show the main menu
PREV	Switch the split viewing mode of 1x, 4x, 9x, and 16x
F1, F2, F3, F4	Speed dome function key. Refer to LCD screen indication depending on the PTZ protocol to operate
REC	Shift to NetDVR manually record mode.
MON	Special control key the four auxiliary outputs of NetDVR (hold on 2 seconds )
EDIT	Edit/change the inputs.
PLAY	Enter NetDVR playback status.
MAIN/AUX	Switch the main/aux output port (hold on 2 seconds)
A	Switch input method
PTZ	Enter NetDVR PTZ control status.
AUX	Reserved in NetDVR control mode
Shut Down	Power off NetDVR
Addr	Change the NetDVR device ID or PTZ address to operate
Clear	Clean the current input
ENTER	Confirm the current input
0-9	Numeric key of 0, 1, 2, 3, 4, 5, 6, 7, 8, 9
A-Z	Letter key of A-Z (26 letters)
PRESET	Setup the speed dome preset
DEL	Delete the speed dome preset
SHOT	Call the speed dome preset
Auto	Run the speed dome tour (depending on the connected speed dome, please refer to the speed dome operation guide )
FOCUS+	Set the lens focus near

FOCUS-	Set the lens focus far
ZOOM+	Zoom in the lens
ZOOM-	Zoom out the lens
IRIS+	Open the lens iris
IRIS-	Close the lens iris
WIPER	PTZ wiper on/off
Light	PTZ light on/off

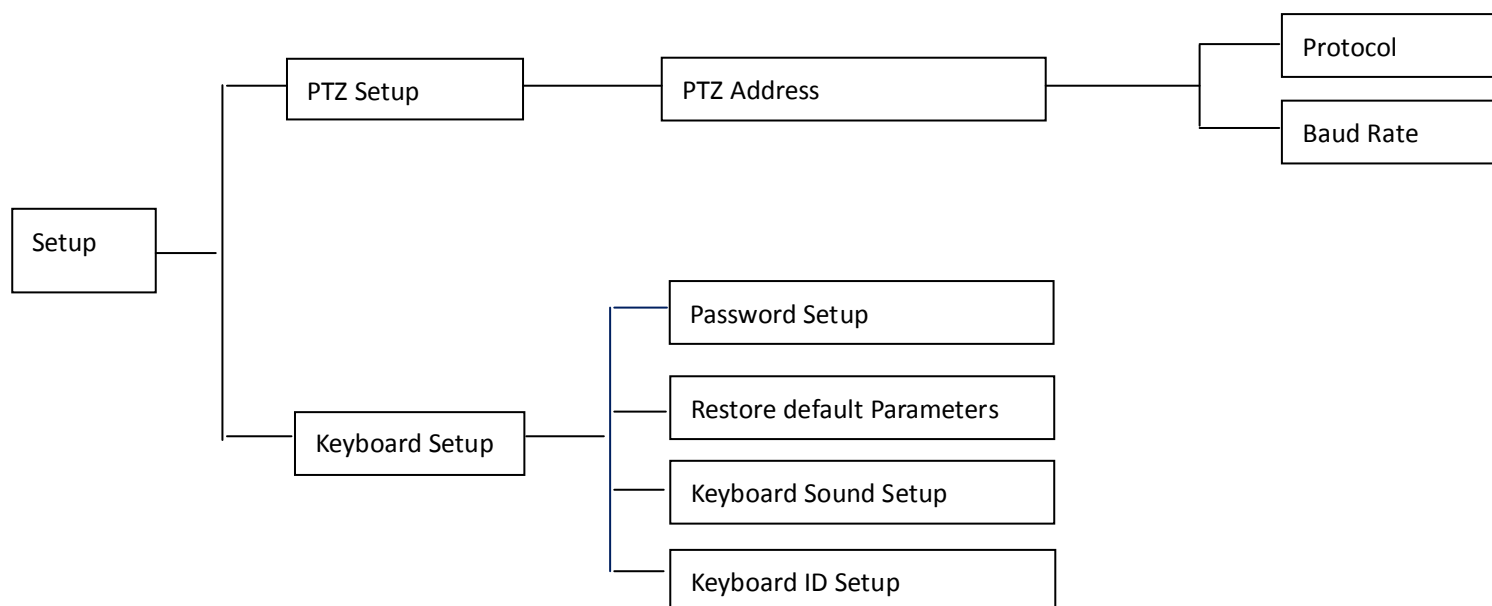
### Joystick movements

Figure	Operation	Descriptions
	up	In PTZ control mode: control the movement of pan/tilt In DVR control mode: play fast when playback the record file
	down	In PTZ control mode: control the pan/tilt to move upon In DVR control mode: play slowly when playback the record file
	left	In PTZ control mode: control pan/tilt to move left In DVR control mode: move backward when playback the record file
	right	In PTZ control mode: control pan/tilt to move right In DVR control mode: move forward when playback the record file
	rotate left	Zoom in the lens
	rotate right	Zoom out the lens

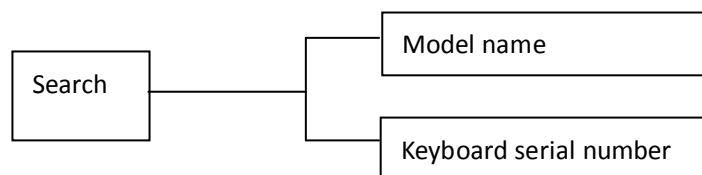
### 3. Keyboard Configuration

#### 3.1 Keyboard menu structure tree

Configuration menu structure: Press SETUP key and hold on 3 seconds to enter setup interface, default password is “8888”



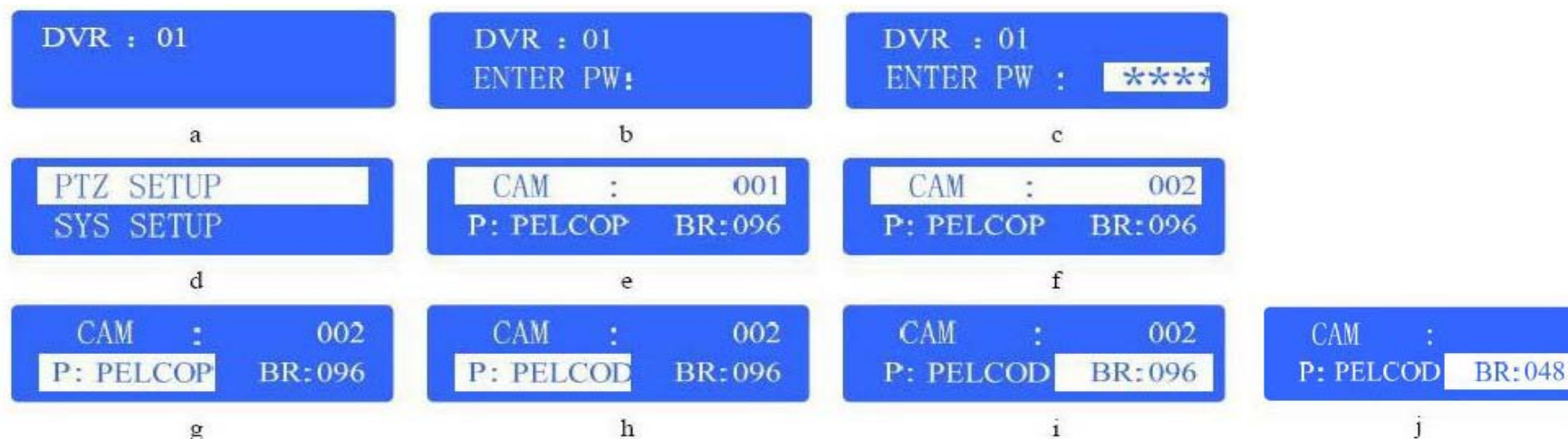
Keyboard system info menu structure: Press SERACH key to display the keyboard system info.



## 3.2 Configuration illustration

Here is an example to illustrate how to setup speed dome, change the PTZ protocol of speed dome 002 to PELCO-D, then change the baud rate to 2400.

- In the mode of standby (icon a), press and hold on the “Setup” key for 3 seconds, login the main menu (icon b).
- Input the password (icon c, default password: 8888).
- Press [Enter] into setup menu, move the joystick up / down to choose [PTZ SETUP] / [SYS SETUP] (icon d).
- Choose [PTZ SETUP] and press [Enter] into [PTZ SETUP].
- Move the Joystick left and right to select the address (ID) of speed dome, e.g. 002 (icon e, f), then press [Enter] into next level menu (icon g).
- Move the joystick up / down to select PTZ protocol, e.g. PELCO-D (icon h).
- Move the joystick right to change the baud rate (icon i), and then select the correct baud rate (icon j).
- Press [Enter], then press “ESC” back to the standby mode (icon a).
- Configuration is done



#### **4. Control Speed Dome through NetDVR**

In this application the Speed Dome RS485 port connects to NetDVR RS485 port. Multiple speed domes may have same address (ID) if their RS485 ports connect to different NetDVR separately. Operation steps are:

Step 1: Set every NetDVR device ID an exclusive number such as 01, 02, 03, and so on.

Step 2: Set every speed dome address (ID) an exclusive number such as 01, 02, 03, and so on. These speed domes are all connected to one NetDVR.

Step 3: Press “Shift” key to enter NetDVR working mode

Step 4: Press “Addr” key then input NetDVR device ID to select a target NetDVR device.

Step 5: Press “Enter” key to confirm your selection.

Step 6: Press “PTZ” key then input a target speed dome ID number that you want to control.

Step 7: Begin PTZ control

Step 8: To change other speed dome just input the ID number then begin PTZ control.

#### **5. Control Speed Dome directly**

In this application the Speed Dome RS485 port connects to keyboard RS485 port directly. Every speed dome must has an exclusive address (ID), address are among 0~254. Operation steps are:

Step 1: Set every speed dome address (ID) an exclusive number such as 01, 02, 03, and so on.

Step 2: Press “PTZ” key then input a target speed dome ID number that you want to control.

Step 3: Begin PTZ control.

Step 4: To change other speed dome just input the ID number then begin PTZ control.

<End>



**Technical Support Information**

Please fill in this form in order to get prompt technical service in case of emergency!

Item	Description
NetDVR Model Name	
NetDVR serial number	
Firmware Version	
Purchasing date	
Dealer's Contact info	Company name: Technical Engineer: Tel: Fax: Email: